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15 March, 1913.

ALFALFA ON SIX RECLAMATION PROJECTS IN 1912.

The great importance of alfalfa on the new irrigated lands of the West is one of the most prominent facts shown in the 1912 crop yield reports from the six Reclamation Projects on which this office maintains experiment farms. Copies of these reports have recently been sent to this office by the Reclamation Service. The tables following have been made up from the figures included in the reports.

Acreage.— In the first table the total acreage of all irrigated crops grown on the six projects in 1912 is stated, and this acreage is compared with the total acreage in alfalfa.

Project.	Acreage				Yield in tons of alfalfa.		
	All crops	Alfalfa.			Total.	Per acre.	
		Total.	% of all Crops.	Cut for Hay		Average	Maximum
North Platte..	50,250	33,616	67	19,512	42,604	2.20	4.0
Truckee-Carson	36,620	16,231	44	12,912	33,595	2.60	6.5
Yuma.....	11,060	10,093	91	7,269	27,078	3.73	10.0
Belle Fourche.	27,897	7,132	26	3,906	8,055	2.06	5.3
Huntley.....	14,425	4,561	32	3,221	8,390	2.60	5.7
Umatilla.....	4,600	2,442	53	2,442	8,388	3.40	8.0
	144,852	74,073	51	49,262	123,110	2.60	10.0

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Alfalfa (continued)

It is seen that in 1912 alfalfa occupied from 26 per cent (on the Belle Fourche) to 91 per cent (on the Yuma) of the crop acreage on these projects, and that of the 144,852 acres in crop on all six projects, alfalfa occupied 74,075 acres, or 51 per cent.

Hay Yields.—The above table shows that of the 74,075 acres in alfalfa, an area of 49,262 acres, or 67 per cent, was cut for hay. The remaining 33 per cent was included in the acreage harvested for seed, that planted with nurse crops cut for grain, and a small acreage of newly seeded alfalfa which was not harvested. The entire acreage cut for hay produced 128,110 tons, or an average of 2.6 tons per acre. The average yields, and particularly the maximum yields, on the different projects vary widely. The variation is rather closely associated with the length of the growing season on the different projects.

Farm Value of Hay.—The second table states the farm value of the alfalfa harvested on the six projects in 1912. These figures represent the value of the hay at the time the data for the reports was collected. In most cases this was in the late fall of 1912.

Project.	Farm value of alfalfa hay.			
	Total.	Per ton	Per acre	
			Average	Maximum
North Platte..	\$213,020	\$ 5.00	\$10.92	\$20.00
Truckee-Carson	235,165	7.00	18.21	45.50
Yuma.....	270,780	10.00	37.30	100.00
Belle Fourche.	40,275	5.00	10.31	26.50
Huntley.....	58,730	7.00	18.23	39.90
Umatilla.....	58,176	7.00	23.80	56.00
	876,686	6.84	17.71	100.00

Alfalfa (continued)

The average value of \$6.84 per ton is calculated from the total value (\$876,686) and the total tonnage (128,110), and the average value per acre (\$17.71) is calculated from the total value and the total acreage.

The produce of the total acreage in all crops (144,852 acres) on the six projects in 1912 had a farm value of \$2,224,916. The farm value of the alfalfa hay (\$876,686) was therefore 39 per cent of the total farm value of all crops.

New seeding.— New seeding is specifically reported from North Platte, Truckee-Carson, Belle Fourche, and Huntley. No new seeding is reported from Yuma or Umatilla, but it is believed that this item is included in the regularly harvested area. The extent of the 1912 seeding as reported is shown below:

Project.	Alfalfa seeding in 1912, acres.		
	With Nurse crop.	Without Nurse crop.	Total.
North Platte...	9,931	2,999	12,930
Truckee-Carson.	3,319	.....	3,319
Belle Fourche..	.....	3,226	2,226
Huntley.....	.....	1,340	1,340
Totals.....	13,250	7,565	20,815

Alfalfa (continued)

Alfalfa seed.—Only North Platte and Yuma reported harvests of alfalfa seed in 1912. The acreage, yields and farm values are given below:

Project.	Acres har- vested.	Yield, bushels			Farm value.			
		Total.	Per acre		Total.	Per Bushel	Per acre	
			Average	Maximum			Average	Maximum
North Platte.	1,174	977	0.8	2.5	8,793	\$9.00	\$7.49	\$22.50
Yuma....	2,824	13,570	4.8	15.0	81,419	6.00	28.80	90.00
	3,998	14,547			90,212			

It is interesting to note that on both projects the average value per acre of alfalfa hay was higher than that of seed, the figures being: Yuma, hay, \$37.50, seed \$23.80; North Platte, hay \$20.92, seed, \$7.49. The reported prices for seed were rather low, however, particularly at Yuma, and the price of hay at Yuma was high.

Alfalfa plowed up.— In view of the generally beneficial effect of alfalfa on the soil and on succeeding crops in irrigated districts, it would be of interest to know the acreage of alfalfa plowed up on the different projects during the year. The reports furnished by the Reclamation Service do not, however, contain this information. A preliminary estimate made by the Service early last summer on the North Platte Project showed that on that project only 169 acres had been plowed up during the first half of the year, while 12,930 acres of new seeding had been planted. No other figures on this feature are available at the present time.

15 March, 1913.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week of March 8 was 54, minimum 8.

In the herbarium advantageous exchanges are being effected with Dr. P. A. Rydberg, New York Botanical Gardens; Fisher Exchange Bureau, of Houston, Texas, and Dr. J. F. Brenckle, Kulm, N. Dak.

Truckee-Carson.

The maximum temperature during the week of March 1 was 50, minimum 34.

Leveling of Field C has been completed. This field will be planted to alfalfa.

A woven wire fence with barb wire on top has been constructed around the ditch rider's house to keep his children out of the experimental garden.

Mr. Joe Beane, Electrical Engineer for the Reclamation Service, made a test of the drainage pumping plant and secured the following data:

.101	watt-hours	is used in pumping	1	gallon of water.
.76	"	"	"	"
1.584	"	"	"	"

The pump throws 0.58 cu. ft. water per second.

12,000 watt-hours was used in January. This should pump 15,800 cu. ft. water.

Umatilla.

The maximum temperature during the week of March 1 was 48, minimum 21.

The weather is quite open, and activities are generally begun on the Project. The planting of fruit trees is well under way, and some people are putting in potatoes with a view to getting them on the early market.

A pruning demonstration was held at the farm March 1. Twenty-five project farmers were in attendance.

15 March, 1913.

FIELD NOTES.

Delta.

The maximum temperature for the week of March 1 was 62, minimum 19. A light shower fell during the night of the 26 February, and a heavy frost occurred on the morning of the 28th.

The work of the week consisted in smoothing Field I and preparing statements from final digging.

Scottsbluff.

The first part of the week of March 8 was stormy and but little outside work could be done. The time was devoted to sorting potatoes in the cellar. Toward the end of the week it began to warm up and some repair carpenter work was done in the barn and on the machine shed. As soon as the manure thawed out so that the spreader was able to handle it, manure hauling was commenced.

Yuma.

The maximum temperature during the week of March 1 was 73, minimum 30; greatest daily range 40.

Leveling was begun on the west end of E series in preparation for planting rows of eucalyptus and dates along the west farm road. Alfalfa plats B9 to 12, C6 and 7, and D6 and 7 were reseeded where stands were poor.

The "Clipper Cleaner" fanning mill was received and the hemp seed from plat D23 of 1912 crop was cleaned and weighed. The best seed yield resulted from planting in 5-ft. rows, totaling a yield of 490 pounds per acre.

Land for early plantings of grain sorghums was irrigated and put in shape for seeding.

Observations of the various wells on the farm indicate that the underground water has risen 9 inches during the past 30 days, due to spring irrigations.

Mr. McLachlan visited the farm on Friday, February 28.

15 March, 1913.

FIELD NOTES.

San Antonio.

The maximum temperature for the week ending March 1 was 86, minimum 35; greatest daily range, 40. On Wednesday evening a thunder storm accompanied by hail and rain came up, the precipitation amounting to 0.75 inch. The hail storm was reported to have done considerable damage in the city, but aside from breaking a few lights in the greenhouses did no great damage at the station.

Canada field peas on plats B6-8 and 10, and rye on B6-18, planted for green manure, were turned under during the week. Plat B6-14 was plowed, and B6-16 was plowed and subsoiled. This completes the plowing on the rotation plats for the crop season of 1913. The peas and rye for green manure made excellent growth this season, and on account of the large size some difficulty was experienced in turning under the growth satisfactorily.

Before plowing under, six areas $3\frac{1}{2}$ feet square were cut from each plat of peas and rye. Computations on an acre basis, green material was turned under as follows: B6-8, field peas, 14.1 tons; B6-10, field peas, 15 tons; B6-18, rye, 12.2 tons. While these figures probably only approximate, they give some idea of the excellent growth made. The difference between plats B6-8 and B6-10 is not considered significant.

After the rain the fields were all harrowed. The plats planted to corn the week before were also given a harrowing.

Pruning the orchard on E4 was completed during the week. The orchards on E3 and A3 were also pruned. All the orchards except A1 were disked for the first time this season.

PERSONAL.

Mr. Argyle McLachlan reported at the Washington office March 15.

March 15, 1913.

FIELD NOTES.

San Antonio.

The maximum temperature for the week ending March 8 was 79, minimum 37; greatest daily range 29. Friday morning it began raining and continued until Sunday morning. For the most part, the rain fell reasonably slow and there was not a large amount of runoff from the plowed fields. The total precipitation up to Sunday morning was 2.49 inches.

On Monday March 3 Dwarf milo was planted on 14 plats in the rotation experiments.

A part of the Canada field peas in the orchard on A1 were plowed under. The growth was very heavy. Six alternate strips where the trees were small on the west side were left to mature seed for next season.

A part of the force was kept busy the early part of the week in cleaning up the lawns and loosening the soil around the trees and shrubs.

Mr. McLachlan visited the farm on the 3rd.

SPECIAL PERSONAL EQUIPMENT.

Mr. Headley recently purchased, for use by employees in irrigating, etc., one pair of rubber boots and one pair of rubber overshoes, at a total cost of \$9.00. The voucher covering this purchase has been returned to Mr. Scofield by the Officer in Charge of Records, who says, in a letter dated March 13, 1913, that, "under a recent decision of the Comptroller of the Treasury, items of a personal character cannot be purchased in the field."

It is possible that equipment of this kind can be secured through the Bureau Property Room and sent out to field stations for use, and upon the first specific request a test of this method will be made.

22 March, 1913.

TIME.

The receipt in this office recently of a number of applications for sick leave incompletely filled out indicates that probably the Departmental regulations covering the use of these forms is not fully understood by all. Attention is called particularly to the fact that the submission of a physician's certificate does not relieve the applicant from the necessity of also filling out and signing his own certificate. This does not need to be sworn to when physician's certificate is furnished.

APPOINTMENTS.

Memorandum for Heads of Offices, dated March 12, and signed by the Acting Chief of Bureau, is as follows:

"It is desired to call attention to the practice in some of the offices of this Bureau of recommending the antedating of appointments and other changes, and to request that recommendations for appointments and other changes be made to this office in advance of the date upon which the appointment is to take effect. The practice of antedating appointments and other changes in personnel is one that should be reduced to a minimum, and your cooperation in effecting is discontinued will be appreciated. General Order No. 94, dated February 14, 1906, expressly forbids the antedating of appointments or promotions. A copy of this order is inclosed to you herewith. In rare cases where it is necessary to ask the Secretary to antedate an appointment, the reason for not making the request in advance should be clearly stated."

"GENERAL ORDER NO. 94.

It is hereby ordered that no promotion in salary or increase in compensation of any person in the Department of Agriculture to be paid from any fund under the control of the said Department

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Appointments (continued)

shall be antedated or take effect before the day and date upon which the same shall be approved and ordered by the Secretary of Agriculture; and it is also hereby ordered that no original appointment to any position or place in the Department of Agriculture involving the payment of a salary or compensation from any fund under the control of the said Department shall be made to take effect on any date previous to the day and date on which the appointment is approved and signed by the Secretary unless the same has been authorized in writing by the Secretary.

(Signed) JAMES WILSON,
Secretary of Agriculture."

This office is probably one of the worst offenders in the Bureau in this respect, since a majority of the appointments requested by our field men have to be antedated; that is, they must be drawn to take effect prior to the date upon which they are requested. It will be necessary to conform to this order as strictly as practicable, and farm superintendents should make an effort to request appointments at least two weeks in advance of the date upon which they are to take effect.

MOVABLE HOG FENCE.

A correspondent in the Breeders' Gazette of March 5 has the following to say regarding a movable hog fence, and it may be of interest to the farm superintendents on the projects where the practice of hogging corn is likely to become popular.

"We have used movable hog fences for many years for fencing off parts of fields of corn to be hogged down. The most satisfactory movable hog fence is a 4-ft. No. 9 wire woven fence. We plow a deep straight furrow, set the fence into it, drive a stake every 100 feet to keep it upright, take a single horse and plow the fence in so that the hogs will not go through or under it. When we want to move the fence we pull it up with a horse, roll it up, and move it to where next wanted."

PUBLICATIONS ISSUED SINCE 1907.

Since January, 1907, this office has been directly concerned in the preparation of 48 publications relating to the agriculture of the western United States. Of these, 20 were written by members of the office staff, 5 were the result of joint authorship between members of the office staff and men connected with other offices of the Bureau or some other agency, and 23 were written by members of other offices who had done part or all of the experimental work reported on at field stations operated by this office.

The 48 publications include 14 Bureau bulletins, 23 numbered circulars, 9 unnumbered circulars, and 2 Yearbook papers. Following is a list of these publications, giving the number, date of issue, title, and author of each. The titles of those written by men outside this office are preceded by a single asterisk; the titles of those prepared by joint authors, one of whom was a member of this office, are preceded by a double asterisk.

BUREAU BULLETINS.

No.	Date of issue.	Title.	Author.
103	May 1907	Dry farming in the Great Basin.....	C.S.Scotfield
118	Dec. 1907	*Peruvian alfalfa: a new long-season variety.	C.J.Brand
128	June 1908	**Egyptian cotton in the southwestern United States.....	T.H.Kearney W.A.Peterson
131 Pt.1	Aug. 1908	The botanical history and classification of alfalfa.....	C.S.Scotfield
156	July 1909	*A study in diversity in Egyptian cotton.....	O.F.Cook A.McLachlan R.M.Meade
157	Aug. 1909	The Truckee-Carson Experiment Farm.....	C.S.Scotfield S.J.Rogers

BUREAU BULLETINS (continued).

No.	Date of Issue.	Title.	Author.
173	Apr. 1910	*Seasonal nitrification as influenced by crops and tillage.....	C.A.Jensen
196	Dec. 1910	*Breeding drought-resistant forage plants for the Great Plains Area.....	A.C.Dillman
200	Dec. 1910	*Breeding new types of Egyptian cotton.....	T.H.Kearney
211	Apr. 1911	*Bacteriological studies of the soils of the Truckee-Carson Irrigation Project.....	K.F.Kellerman E.R.Allen
220	Aug. 1911	*Relation of drought to weevil resistance in cotton.....	O.F.Cook
226	Jan. 1912	*A plant disease survey in the vicinity of San Antonio, Texas.....	F.D.Heald F.A.Wolfe
237	Jan. 1912	**Grain sorghum production in the San Antonio region of Texas.....	C.R.Ball S.H.Hastings
249	Sept 1912	*The branching habits of Egyptian cotton.....	A. McLachlan

BUREAU NUMBERED CIRCULARS.

13	Sept 1908	The work of the San Antonio Experiment Farm in 1907.....	F.B.Headley S.H.Hastings
28	Apr. 1909	**Experiments with Egyptian cotton in 1908.....	T.H.Kearney W.A.Peterson
34	July 1909	The work of the San Antonio Experiment Farm in 1908.....	F.B.Headley S.H.Hastings
59	June 1910	*Dry land grains for western North and South Dakota.....	C.Salmon
78	June 1911	Agricultural observations on the Truckee-Carson Project.....	F.B.Headley V.Fulkerson

BUREAU NUMBERED CIRCULARS (Continued).

No.	Date of issue.	Title.	Author.
79	June 1911	*Winter wheat in western North and South Dakota	C.Salmon
83	July 1911	Suggestions to settlers on the Belle Fourche Irrigation Project.....	Beyer Aune
86	Aug. 1911	**Preliminary report on the Klamath Marsh Experiment Farm.....	C.S.Scofield L.J.Briggs
90	Feb. 1912	*Suggestions to potato growers on irrigated land	L.C.Corbett
91	Feb. 1912	The nematode gallworm on potatoes and other crop plants in Nevada.....	C.S.Scofield
96	July 1912	*Results of cotton experiments in 1911.....	O.F.Cook
106	Mar. 1913 In press	Forage crop experiments at San Antonio, Texas..	S.H.Hastings
109	Jan. 1913	Interpreting the variation of plat yields.....	F.D.Farrell
110	Jan. 1913	*Preparation of land for Egyptian cotton in the Salt River Valley, Arizona.....	E.W.Hudson
110	Jan. 1913	Vegetables for the home garden on the Truckee-Carson Project.....	F.B.Headley V.Fulkerson
110	Jan. 1913	*Fiber from different pickings of Egyptian cotton.....	T.H.Kearney
111	Feb. 1913	*Durango cotton in the Imperial Valley.....	O.F.Cook
112	Feb. 1913	*Egyptian cotton as affected by soil variations.	T.H.Kearney
113	Feb. 1913	Commercial truck crops on the Truckee-Carson Project.....	F.B.Headley V.Fulkerson
114	Feb. 1913	Experiments in subsoiling at San Antonio.....	S.H.Hastings C.R.Letter
115	Mar. 1913	*Grasses for canal banks in western So.Dakota...	A.C.Dillman
116	Mar. 1913	The work of the Scottsbluff Experiment Farm in 1912.....	Fritz Knorr

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BUREAU UNNUMBERED CIRCULARS.

B.P.I. Serial Number	Date of issue	Title.	
362	Mar. 1909	*Cotton culture in the southwestern United States.....	T.H.Kearney
451	Mar. 1909	**Hints to settlers on the Truckee- Carson Project, Nevada.....	T.H.Means S.J.Rogers
452	Mar. 1909	Hints to settlers on the Minidoka Project, Idaho.....	A.McPherson
453	Mar. 1909	Hints to settlers on the Belle Fourche Project, South Dakota.....	C.A.Jensen
454	Mar. 1909	*Hints to settlers on the North Platte Project, Nebraska.....	J.A.Warren
455	Mar. 1909	*Hints to settlers on the Williston Project, North Dakota.....	J.C.McDowell
462	Apr. 1909	*Hints to settlers on the Sun River Project, Montana.....	J.S.Cotton W.A.Remington
495	Aug. 1909	*Hints to settlers on the Umatilla Project, Oregon.....	Byron Hunter
717	Jan. 1912	Suggestions on growing Egyptian cotton in the Southwest.....	C.S.Scotfield

YEARBOOK PAPERS.

No.	Yearbook for	Title.	Author.
505	1909	The problems of an irrigation farmer.....	C.S.Scotfield
573	1911	The present outlook for irrigation farming...	C.S.Scotfield

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FIELD NOTES.

Belle Fourche.

The maximum temperature for the week of March 15 was 54, minimum -5; precipitation 0.49 inch, of melted snow.

The worst blizzard of the season occurred during the week, and Monday, the 17th, was the fourth day that communication with the east and south had been shut off.

Delta.

The maximum temperature during the week of March 8 was 80, minimum 30.

The weather continues very dry, and farmers fear a repetition of last season's drought.

The work of the week consisted in preparing statements and yield contrasts from final digging.

Scottsbluff.

Mr. Knorr reports as follows for the week of March 15:

One team was kept busy the first three days of the week leveling the south end of Series III and IV, Field H.

Two men began cleaning off the corn stalks on Series I, Field D.

Hay was hauled whenever the wind settled enough to permit this work.

On Thursday snow began to fall and inside jobs were found for all the men. In the afternoon the storm developed into a blizzard, and all that night, all day Friday, Friday night and part of Saturday the wind blew almost a gale. Large portions of the fields were swept clean of snow and at other places drifts were five feet high. For three days the farm was cut off from town.

22 March, 1913.

FIELD NOTES.

Umatilla.

The maximum temperature during the week of March 8 was 61, minimum 27; greatest daily range 32.

A collection of seed has just been received from the Office of Seed and Plant Introduction. This includes 9 Citrullus vulgaris, 1 Crotalaria candicans, and 1 Crotalaria saltiana. This material is to be planted and tried at the station this season.

On March 6 Mr. Allen held a pruning demonstration at Stanfield, on the Inland Irrigation Project, where considerable interest was shown by the orchardists of that district.

Mr. Dean lectured at Columbia School Friday night, March 7, on the subject of "Farm Cooperation", and Mr. Allen and Mr. Dean lectured Saturday night at Hermiston on "Cooperation in Crop Growing" and "Seed Selection", respectively.

Truckee-Carson.

The maximum temperature for the week of March 8 was 65, minimum 18.

The labor of the week consisted in getting the garden and some of the fields ready for early planting.

The irrigation season opened earlier this year than in previous years, the water having been available for distribution on March 1, instead of March 15 as has been usual.

Many farmers and city residents are calling at the Experiment Farm for trees and cuttings that are on hand for distribution.

Yuma.

The maximum temperature during the week of March 8 was 86, minimum 31; greatest daily range 45.

Several days during the week were spent in repairing irrigation ditches and borders and constructing a main ditch on the west line of the farm. Leveling was continued on E-fields. One hundred and sixty basket willow posts for building west line fence were treated with crude oil.

Fields E-5 and 6 were seeded to alfalfa on March

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FIELD NOTES.

Yuma (continued).

8, and Fields E-1 to 4 were seeded to Peruvian alfalfa.

The plantings of Eucalyptus rudis on the station have been severely damaged by the winter freeze and it has been necessary to cut nearly all of these trees back to the ground.

The date plantings in both nursery and orchard were not severely injured. A few outer leaves on all plants have been frozen, except one-year-old seedlings, which have been uninjured. Some of the seedling plants show marked differences of frost resistance.

The seedling and variety plantings of figs on C-8 to 17 show still greater variations as to frost resistance. Nearly 25 per cent of the trees have endured the freeze uninjured.

HUNTLEY.

The maximum temperature for the week of March 15 was 57; minimum 6; precipitation 0.15.

During the first part of the week the fall plowed ground in A-II and C-III was disked and harrowed. A snowfall of six inches on Wednesday, followed by severe freezing, stopped the work and the ground is still covered with snow.

A number of fruit trees set out last spring have been winter killed and it will be necessary to replant a good many of these this spring.

While there has been but little snow during the winter, the winter grain has come through in good condition.

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The Senate on March 17 confirmed the appointment of Dr. Galloway as Assistant Secretary of Agriculture, and on the same day Mr. W. A. Taylor was made Chief of the Bureau of Plant Industry. Prof. L. C. Corbett has been designated as Assistant Chief of Bureau.

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Vol. III.

29 March, 1913.

COOPERATIVE WORK ON W. I. A. FIELD STATIONS.

One of the chief functions of the Office of Western Irrigation Agriculture is to maintain field stations upon which specialists connected with the Department of Agriculture can carry on special lines of investigation in problems affecting the agricultural districts in which the stations are located. These special lines of work are conducted under various cooperative arrangements. Ordinarily, this office furnishes the necessary land, teams, and machinery, and part of or all the necessary common labor. In some cases a specialist is detailed by the cooperating office or other agency to supervise the special work. In other cases the work is supervised by the farm superintendent according to plans submitted by the cooperating agency.

Of the agencies which have cooperated with this office since 1907, 14 are offices in the Bureau of Plant Industry, 6 are State experiment stations, and 2 are private associations. There has also been cooperation with the Forest Service. There are in all 23 agencies which have cooperated with this office during the past six years.

It should be stated that some of these and other agencies have rendered valuable assistance from time to time which has not been in the nature of cooperation. Such assistance has included such things as furnishing seed, plants, cuttings, etc., in small quantities for incidental purposes at the request of this office, as well as advice in planning experiments or making demonstrations.

The list following includes the names of the agencies which have cooperated at the field stations since 1907. The unit of cooperations used is the agency-cooperation-year -- that is, when one agency cooperates with this office at one field station for one year, the unit here used to express that cooperation is the "Agency-cooperation-year". The list shows that the total of such units with Departmental agencies is 170, and that with outside agencies is 29, making a total of 199 agency-cooperation-years.

Cooperative Work (continued).

Field Station	Cooperating Office or other Agency	Years Cooperating	Cooper- ation years
SAN ANTONIO..	Forage Crop Investigations.....	1907 to 1912	6
	Seed and Plant Introduction.....	1907 to 1912	6
	Crop Physiology and Breeding Investigations.....	1907 to 1912	6
	Corn Investigations.....	1907 to 1912	6
	Acclimatization and Adaptation of crop Plants and Cotton Breeding Investigations.....	1907 to 1912	6
	Alkali and Drought Resistant Plant Breeding Investigations.....	1908 to 1912	5
	Cereal Investigations.....	1907 to 1912	6
	Biophysical Laboratory.....	1907 to 1912	6
	Total.....		47
YUMA.....	Acclimatization and Adaptation of Crop Plants and Cotton Breeding Investigations.....	1907 to 1912	6
	Cooperative Marketing and Paper Plant Investigations.....	.... .. 1912	1
	Alkali and Drought Resistant Plant Breeding Investigations.....	1907 to 1912	6
	Corn Investigations.....	1908 to 1912	5
	Crop Physiology and Breeding Investigations.....	1907 to 1912	6
	Fiber Investigations.....	.... .. 1912	1
	Biophysical Laboratory.....	1907 to 1912	6
	Forest Service.....	1909 & 1910	2
	Total.....		33
DELTA.....	Truck Crop Disease Investigations.....	1911 & 1912	2
	Biophysical Laboratory.....	1911 & 1912	2
	Delta Association of California.....	1911 & 1912	2
	California Experiment Station.....	.... 1912	1
	Total.....		7

Cooperative Work (continued).

Field Station	Cooperating Office or other agency.	Years Cooperating	coop- er- ation years
TRUCKEE-CARSON	Alkali and Drought Resistant Plant		
	Breeding Investigations.....	1907 to 1909	3
	Soil Bacteriology and Plant		
	Nutrition Investigations.....	1909 to 1912	4
	Crop Physiology and		
	Breeding Investigations.....	1910 to 1912	3
	Acclimatization and Adaptation of Crop		
	Plants and Cotton Breeding		
	Investigations.....	1907 & 1908	2
	Corn Investigations.....	1908 to 1910	3
	Biophysical Laboratory.....	1908 to 1912	2
	Forest Service.....	1908 & 1909	2
	Nevada Experiment Station.....	1907 to 1912	6
	Total.....		28
UMATILLA.....	Horticultural Investigations.....	1911 & 1912	2
	Biophysical Laboratory.....	1911 & 1912	2
(In coopera- tion with the Oregon Exper- iment Station)	Oregon Experiment Station.....	1909 to 1912	4
	Total.....		8
HUNTLEY.....	Dry Land Agriculture.....	1909 to 1912	4
(In cooperation with the Mon- tana Experi- ment Sta.)	Corn Investigations.....	.... .. 1912	1
	Forage Crop Investigations.....	1911 & 1912	2
	Sugar Plant Investigations.....	.... .. 1912	1
	Cereal Investigations.....	1910 & 1911	2
	Biophysical Laboratory.....	1910 to 1912	3
	Montana Experiment Station.....	1909 to 1912	4
	Billings Sugar Company.....	1909 to 1912	4
	Total.....		21

Cooperative Work (continued).

Field Station	Cooperating Office or other agency.	Years Cooperating	Cooperation years
BELLE FOURCHE	Dry Land Agriculture.....	1907 to 1912	6
	Alkali and Drought Resistant Plant		
	Breeding Investigations.....	1908 to 1912	5
	Cereal Investigations.....	1908 to 1912	5
	Sugar Plant Investigations.....	.... .. 1912	1
	Corn Investigations.....	1911 & 1912	2
	Horticultural Investigations.....	.... .. 1911	1
	Biophysical Laboratory.....	1908 to 1912	5
	Forest Service.....	1909 to 1912	4
	Total.....		29
SCOTTSBLUFF	Dry Land Agriculture.....	1909 to 1912	4
(Maintained	Sugar Plant Investigations.....	1911 & 1912	2
by the Office	Forage Crop Investigations.....	1910 to 1912	3
of Dry Land	Horticultural Investigations.....	1911 & 1912	2
Agriculture	Corn Investigations.....	1911 & 1912	2
until Sept.	Biophysical Laboratory.....	1910 to 1912	3
1, 1912.)	Nebraska Experiment Station.....	1909 to 1912	4
	Total.....		20
KALMATH.....	Biophysical Laboratory.....	1910 & 1911	2
WILLISTON	North Dakota Experiment Station.....	1909 to 1912	4
(Maintained			
by N.Dak.			
Exp.Station)			

SUMMARY.

Field Stations.	Agency-Cooperation-Years.		
	Departmental Agencies.	Outside Agencies.	Total.
San Antonio.....	47	0	47
Yuma.....	33	0	33
Delta.....	4	3	7
Truckee-Carson.....	22	6	28
Umatilla.....	4	4	8
Huntley.....	13	8	21
Belle Fourche.....	29	0	29
Scottsbluff.....	16	4	20
Klamath.....	2	0	2
Williston.....	0	4	4
Total.....	170	29	199

29 March, 1913.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week of March 22 was 43, minimum -20; precipitation 0.26 (melted snow).

The storm still continued, the 23rd being one of the worst days since the storm began.

The following plants have been received from the Plant Introduction Garden at Chico:

10	plants	SPI	21967,	Caragana chamlaga.
20	"	"	31822,	Elaeagnus angustifolia.
10	"	"	35120,	Fraxinus ornus.
4	"	"	20734,	Halimodendron halodendron.
20	"	"	19356,	Salix viminalis.
10	"	"	26671,	Salix vitellina.
10	"	"	23975,	Ulmus pumila.

Truckee-Carson.

The maximum temperature during the week of March 15 was 67, minimum 15; average wind velocity 4.9; precipitation 0.25.

The land intended for onions and some of the strong alkali lands in C and E were irrigated.

A heavy application of manure was made on the greater part of N-12. This field will be used for garden and orchard.

Delta.

The maximum temperature during the week of March 15 was 69, minimum 28.

Owing to extreme dryness, farmers have begun to dig ditches for irrigating their barley crops. The recent frost left its traces in the young barley just coming up.

During the week of March 22 the maximum temperature was 69, minimum 28.

Mr. Oliver Baker, of the Department of Farm Management, was a visitor Wednesday. Mr. Baker is especially interested in the investigation of climatic conditions in California and the reclamation districts of the San Joaquin Valley.

Mr. H. D. Stelle, of the firm of Baxter & Stelle,

29 March, 1913.

FIELD NOTES.

Delta (continued)

of Los Angeles, called at the station Saturday and will remain in the vicinity to try out their latest type of potato digger, specially designed for digging in the peat soil.

In conjunction with Mr. Gardener, County Horticulturist, Mr. Irish has been investigating the reports concerning eelworm in potatoes recently shipped from one of the adjacent islands to the Los Angeles markets.

Potatoes are still moving, though bringing but 20 @ 30¢ a sack on board cars at shipping point.

Mr. Irish left Wednesday for Washington.

The barley has been greatly improved by the recent rain and prospects for a good crop are better than they have been for some time.

A light frost occurred on the morning of the 16th. A good fall of rain occurred during the night of the 17th, followed by three hours' heavy rain on the morning of the 21st and still another during the night of the 21st.

Plowing with a 3-horse sulky plow has been commenced and is now finished on the new ground next to the levee, just south of the schoolhouse. This was in alfalfa last season. The sod is very heavy and will require a good deal of working to put in condition for planting.

Yuma.

Alfalfa row plantings on plate C-42 to 46 were cultivated.

The fig and date lands on the farm were irrigated and cultivated for the first time this season.

Plat D-17 was planted to hemp in row distances of 2 and $3\frac{1}{2}$ feet.

Seven varieties of grain sorghums, to be carried as variety tests in successive plantings, were planted on plats D-20 and 21 on March 11.

One hundred pistache trees were received from Chico and planted to orchard positions on B-26.

Twenty-one varieties of peach and plum trees were received from Texas nurseries and planted to orchard positions on B series.

Mr. F. L. Sellow, Project Engineer of the Yuma Project, visited the station Tuesday, accompanied by Messrs. A. P. Davis, Chief Engineer, and L. C. Hill,

FIELD NOTES.

Yuma (continued).

Supervising Engineer of the Salt River Project, and D. W. Murphy, Engineer in Charge of Drainage.

The maximum temperature during the week of March 15 was 84, minimum 34; greatest daily range 45.

San Antonio.

The maximum temperature for the week ending March 15 was 79, minimum 38. The wet weather continued during the first part of the week, there being 0.25 inch precipitation in addition to the 3.49 inches reported the previous week.

The ground had dried by Thursday sufficiently to start the harrows, and all unplanted fields were harrowed on that and the following day.

The corn and milo on the rotation plats were cultivated on Friday.

On Saturday Sudan grass and sumac sorghum were planted on the rotation plats.

Forty-four 16-rod rows of Texas corns were planted on C-5 and the north end of C-4 on the 15th.

PERSONAL.

Mr. Vincent Fulkerson, Horticulturist at the Truckee-Carson Farm, resigned from the service March 15, in order to take up the personal supervision of his farm on the Project.

Mr. John P. Irish, Jr., reported at the Washington office March 24.

5 April, 1913.

TIME.

Certification of Sick Leave.

While it is not required by the regulations that the applicant execute the personal certificate when a physician's certificate is also furnished, the Chief Clerk of the Bureau prefers that this be done. When the physician's certificate is filled out, however, it is not necessary to execute the jurat to the applicant's certificate.

REPORTS,

To be Initialed.

It has been noticed that a considerable number of the reports of various kinds received in this office from field stations bear no initials or other evidence of approval by the persons responsible for their accuracy. This is especially true of itinerary reports, which rarely carry any indication that they have been examined by the interested person. It is suggested that care be taken to see that all reports bear such approval.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week of March 29 was 50, minimum -14.

The work of the week included cleaning seed grain, repairing cistern, and making turnouts for the irrigation system.

5 April, 1913.

FIELD NOTES.

Scottsbluff.

The maximum temperature during the week ending March 22 was 62, minimum 11. This was another week of cold weather. The loss of live stock was very heavy, stock being reports strayed and dead from all points. The loss of young pigs was large, very few farmers being prepared for such extreme cold at this time of the year.

Mr. Juius Jacobson, who will have charge of the work of the Office of Dry Land Agriculture, arrived March 18 and assumed his duties.

Truckee-Carson.

The minimum temperature during the week ending March 22 was 19, maximum 65.

A planting was made in triplicate of 12 varieties of onions in Field S.

The following plants, received from the Office of Seed and Plant Introduction, were planted in Field S:

S.P.I. 21782, <i>Eucommia ulmoides</i> ,	2	plants.
30051, <i>Salix</i> sp.	4	"
30052, " "	4	"
30144, " "	3	"

One plant of S.P.I. 28844, *Clematis integrifolia*, was planted in the greenhouse, and two plants of S.P.I. 29266, *Statice* sp. were planted in the flower garden in H-1.

One ton of gypsum was purchased to be used for drainage experiments on alkali plats.

Budded and grafted fruit trees were removed from the nursery rows to their permanent positions in N-12.

A large number of trees and cuttings, including some budded and grafted fruit trees, were distributed to farmers.

5 April, 1913.

FIELD NOTES.

Huntley.

The maximum temperature during the week of March 22 was 37, minimum -25; precipitation 0.15 inches.

The past week has been very cold and stormy, the lowest temperature being -25° on the 21st. At present the ground is covered with about 7 inches of snow, with no indication of clearing off soon.

Yuma.

On the morning of March 16 a minimum temperature of 30° was recorded, denoting a frost which was very destructive to the early truck crops that had been planted by several of the settlers.

Plats 1 to 10 on A series were bordered and leveled in preparation for planting.

Plats E-7 and 8 were planted to dwarf milo on March 19.

The following fruit trees were received from California nurseries to be given orchard positions on B-25 to 30: 32 peach, 20 plum, 12 prune, 2 nectarine, 8 apricot, 16 cherry, 12 pear, 12 apple, 6 quince, 8 almond, 8 walnut, and 12 pecan.

Twenty-four Japanese persimmons were received from Florida.

Twenty-six ornamentals were also received for planting on the grounds.

Severe winds and sand storms, nearly continuous throughout the week, made outside work very disagreeable. Some of the lighter, cultivated soils drifted badly, injuring stands of new alfalfa.

San Antonio.

The maximum temperature for the week of March 22 was 84; minimum 26. On Saturday and Sunday nights, March 15 and 16, killing frosts occurred, doing great damage to fruit crops. The corn on the rotation plats, which was the only corn up, was killed to the ground, but apparently all of it has recovered and has reached practically the same stage in its growth as before the freeze.

Two plats of orange sorghum were drilled in the new rotations on A-4.

5 April, 1913.

FIELD NOTES.

San Antonio (continued)

Plantings of the following seeds were made for seed production: Sudan durra, dwarf kafir, sumac sorghum, and sudan grass.

It is expected that pure seed of Dwarf milo will be obtained from the rotation plats this season.

On account of the poor stand of Dwarf milo obtained from the plantings made on the rotation plats on March 3, all of the Dwarf milo plats were harrowed and planted the second time on March 19.

A very good crop of fruit had set in the peach orchards, but recent examination shows that there will be very little fruit this season. The greater part of the trees had already flowered or were in flower at the time of the freeze.

A variety test of six 1/10 acre plats of corn was put in on C-4 in connection with the other corn plantings in that field and C-5.

Nine plats of milo were planted on B-4. These plats are for the purpose of testing the different rates of seeding, both in the row and with the rows different distances apart. Several selections from the 1912 crop were also planted in the same field.

A 1/10 acre plat of Tepary beans was planted on B-4. To compare with these beans, a 1/20 acre plat was planted to California pink and Mexican Bayou beans.

Several varieties of corn and beans were planted in the garden on D-3.

There have been 29 requests for various varieties of grain sorghum received at the station this spring. These requests have been supplied through the Amarillo Cereal Station.

MAILING LISTS.

Under the present plan of handling mailing lists, stencils are cut and held in the Government Printing Office, and publications are ordered sent out under list key numbers.

It will therefore be unnecessary in future for farm superintendents to send in complete mailing lists from time to time, but only to send in such corrections, subtractions, or changes in address as may be desired.

12 April, 1913.

TIME.

Leave While Traveling.

The explanatory statement given under the head of "Time" on page 26, Vol. II, of the Weekly Bulletin of March 1, 1913, referring to Memorandum for Heads of Offices No. 29, copy of which was given on the same page, should be amended by striking out the second paragraph and substituting therefor the following:

"It is thought that the form is nearly self-explanatory. It must accompany the request for the letter of authorization, which must include permission to take leave".

It will not hereafter be necessary to write a letter or statement to accompany the application for leave on the regular blank.

FARM ACREAGE ON SIX RECLAMATION PROJECTS IN 1912.

Below are given some data relative to farm acreage on six Reclamation projects where field stations are maintained by this office. The figures were obtained from the Reclamation Service and apply to conditions in the year 1912.

Reports were received from 3,131 farms, having a total irrigable area of 223,554 acres, or an average of 71 acres per farm. An area of 147,559 acres, or an average of 47 acres per farm, was actually irrigated. Crops were harvested from 135,508 acres, an average of 43 acres per farm. The area irrigated but not harvested—12,051 acres—consisted mainly of newly planted alfalfa and young orchards not yet in bearing. The average area irrigated and not harvested was 4 acres per farm.

The average areas per farm on the Truckee-Carson Project are noticeably high. This is due to the fact that a large proportion of the total acreage is contained in a few very large units. Of the 36,620 acres irrigated, 11,561 acres were contained in 8 old ranches. Disregarding these 8 large ranches, and considering only the remaining 489 farm units, which had a total irrigated area of 25,059 acres, the average irrigated area per farm unit is 51 acres, instead of the 74 acres

12 April, 1913.

Farm Acreage (continued).

shown in the table. The figures received from the Reclamation Service are not segregated in such a way as to make it possible to calculate the average irrigable area of the same 489 farms.

The data on farm acreage are given by projects in the following table.

Project.	Number of farms	Area, acres.					
		Irrigable		Irrigated		Harvested	
		Total	Per farm	Total	Per farm	Total	Per farm
North Platte..	827	67,080	81	50,250	61	47,251	57
Truckee-Carson	497	54,937	110	36,620	74	36,620	74
Yuma.....	470	27,592	59	13,767	29	11,060	23
Belle Fourche.	537	44,654	83	27,897	52	24,617	46
Huntley.....	505	20,200	40	14,425	29	12,742	25
Umatilla.....	295	9,091	31	4,600	16	3,218	11
Six Projects..	3,131	223,554	71	147,559	47	135,508	43

PERSONAL.

Mr. Irish left Washington April 9 for Stockton, Cal., where he will resume his duties on the Delta Experiment Farm.

12 April, 1913.

MR. SCOFIELD ON LEAVE.

On April 15 Mr. Scofield starts on a trip through the western United States with Mr. Henry Morgenthau, jr. of New York. Mr. J. A. Taylor, of this office, will go with them as secretary. Both Mr. Scofield and Mr. Taylor will be on furlough. The itinerary as at present planned will take the party to North Dakota, thence south to Louisiana, west to California, north to Oregon and Washington, east through Idaho, Utah, and Colorado; thence to Montana and North Dakota, and finally into western Canada. It is expected that the trip will require about four months. Mr. Scofield will keep in touch with the office and may be reached by telegraph in case important matters require his attention. Mr. Farrell will be in charge of the office during Mr. Scofield's absence.

FIELD NOTES.

Delta.

The maximum temperature during the week of March 29 was 70, minimum 27.

There was frost on the morning of the 27th.

Plowing on Field F, Lands I-II-III-IV-V-VI was finished.

Huntley.

The maximum temperature during the week of March 29 was 49, minimum -29.

The weather continued cold and stormy during the first of the week, but moderated considerably and a chinook wind took most of the snow off the ground.

The price of potatoes is still very low, being only about 45 cents per cwt., and that for small quantities to supply the local markets, as none are being shipped out. It will probably be difficult to dispose of those on hand at the farm.

12 April, 1913.

FIELD NOTES.

Truckee-Carson.

The maximum temperature during the week of March 29 was 72, minimum 10.

A recording weir was built and installed at the drainage pump, so that calculations can be made of the quantity of water discharged from the drainage system.

Root grafts of apples, pears, and cherries were made.

Ornamental trees and shrubs were planted and the lawns around the office building fixed up.

Plats F-1, 2, 3, and 4 were plowed and prepared for seeding to sweet clover.

Yuma.

The maximum temperature during the week of March 29 was 85, minimum 49.

Orchard lands A-18 to 21, B-25 to 30, and C-8 to 19, inclusive, were cultivated during the week. New lands A-15-1 to 8 were bordered and partly leveled.

Three men were engaged three days in preparing for and planting ornamentals on the grounds. Heavier soil and barnlot manure were supplied for several ornamental palms to insure better growth in sandy soil. A plan of planting no trees or shrubs on the main farm grounds except those that are evergreen in this climate is being followed.

Several of the seedling date trees which have been set to orchard positions on A-16 to 21 for three years are putting out flower stalks. Male trees predominate among the early bloomers.

Mr. Rowland McKee visited the station on the 29th.

San Antonio.

The maximum temperature for the week ending March 29 was 81, minimum 30.

The temperature of 30 degrees did no noticeable damage at the farm, even to tender plants, such as beans, but much damage was done in regions to the north of San Antonio.

The rotation plats were gone over with the hoes during the week and large weeds and Johnson grass cut out.

12 April, 1913.

FIELD NOTES.

San Antonio (continued)

An inventory of the ornamental trees and shrubs on the grounds has been taken. There is a total of 147 species or varieties of plants alive at this time, not including the roses, of which there are 80 varieties. The ornamentals are divided as follows:

Local native species..... 35

(These include 18 species of yuccas, agaves, etc., received from the office of Seed and Plant Introduction, 33 numbers).

Palms..... 18

Bamboos and grasses..... 19

Miscellaneous trees and shrubs..... 43

(These have been received from various nurseries and private individuals).

Each tree has been given a ground number and most of them have been provided with an aluminum label giving the name and number. The others are provided with zinc "spoon" labels giving the same information.

Three 1/10 acre plots of Chinese corn were planted on AB-8 and a duplicate planting was made on A-3.

Nineteen trees were cut out of the Mexican seedling orchard. These were dead or nearly so, and apparently the cause was crown gall in the majority of cases. Roots have been sent to Washington for examination.

Dr. C. S. Sargent, of the Arnold Arboretum, Harvard University, his son, and Prof. Barnard Mackinson visited the station on Saturday.

Umatilla.

The maximum temperature during the week of March 15 was 64, minimum 23.

Work was begun in preparation of some additional small areas for irrigating.

A pruning demonstration was held by Mr. Allen in the Cold Spring District. A large number of orchardists were present and showed a great deal of interest in the proper training of their trees.

13 April, 1913.

FIELD NOTES.

Umatilla (continued)

The maximum temperature during the week of March 22 was 56, minimum 20.

Two hundred small boxes were made and fitted with glass covers, under which to plant melon seed in an attempt to mature the crop early without the use of hotbeds and the consequent transplanting.

The distribution system was partly overhauled preparatory to carrying water.

The maximum temperature during the week of March 29 was 58, minimum 19.

Work was continued in the overhauling of the distribution system, and slabs of concrete have been made to use in the construction of additional measuring and diversion boxes.

Scottsbluff.

On the 24th and 25th of March light snow flurries occurred, but the weather moderated considerably, the coldest of the week being only 4° above zero. On the 29th the weather was fine, although the wind was blowing a gale, and some field work was started.

On Friday manure was hauled to some of the alfalfa on Field H, and Saturday afternoon the ground had thawed enough to permit the use of a disk and harrow.

Mr. Holden manured Plat 17, series 1, on Field K, and harrowed all of the fall-plowed plats.

Mr. Jacobson disked the fallow plats and the fall-plowed plats of the dry-land work.

All of the alfalfa land that was plowed last fall is also being harrowed.

Mr. H. C. Diesem, of the Office of Experiment Station, spent a day with us.

For the week ending April 5, Mr. Knorr reports that they have been able to do field work since April 1, there being only two mornings when the ground was frozen so that work had to be deferred for two or three hours.

12 April, 1913.

FIELD NOTES.

(Scottsbluff, continued)

Irrigated Rotations.

All the spring disking on Field K was finished, and after the disking the plats were harrowed.

Backsetting of the fall-plowed alfalfa was begun; plats IV-15 and I-17 were plowed.

Posts were set around I-10 preparatory to fencing as soon as the alfalfa begins to grow and is ready for pasturing.

Dry Land Rotations.

All of the fallow and corn stubble plats, with the exception of A of the M.C. series, was disked and harrowed.

All of the spring plowing except for corn has been finished.

April 5 the spring wheat and field peas were seeded. The soil is in good shape and carries considerable moisture.

General Work.

All of the fall-plowed alfalfa has been harrowed and backsetting of this has been started.

The sugar beet ground is being plowed so as to get it in shape for planting by the end of the next week if possible.

The wheat on the fall-irrigated land experiment has been seeded; likewise the wheats in the variety test.

About 30 poplars were planted along the road, replacing trees that died last year.

Belle Fourche.

The maximum temperature during the week of March 5 was 64, minimum 25.

The work of the week consisted mainly of making lath tube turnouts for the irrigation system.

19 April, 1913.

THE 1912 SUGAR BEET CROP.

The following table, prepared from figures published in the April "Crop Reporter", shows the acreage, production, sugar content, purity, and price of the sugar beets produced in the United States in 1912.

State.	Acreage	Production, tons		Sugar content, per cent	Purity per cent	Average price per ton
		Total.	per acre			
California....	111,416	1,004,328	9.01	18.79	83.99	\$6.46
Colorado.....	144,999	1,641,861	11.32	16.19	84.81	5.96
Michigan.....	124,241	838,784	6.75	14.72	83.75	5.69
Idaho and Utah	56,952	615,749	10.81	16.65	86.83	4.97
Other States..	117,692	1,123,655	9.57	15.52	83.21	5.70
<u>United States.</u>	<u>555,300</u>	<u>5,224,377</u>	<u>9.41</u>	<u>16.31</u>	<u>84.49</u>	<u>5.82</u>

The total sugar produced from the beets was 692,556 tons. There were 73 factories in operation, and 54 of these were in the five States of California (11), Colorado (17), Michigan (16), and Idaho and Utah (10). These five States produced 554,295 tons of sugar, or a little less than five-sixths of the total.

Considering the whole United States, the beet acreage was larger, by about 82,000 acres, in 1912 than in 1911; the beet production increased about 162,000 tons, but the average yield decreased from 10.68 to 9.41 tons per acre. In Michigan the acreage was about 20,000 acres smaller in 1912 than in 1911, and the average yield was 3 tons per acre less. The average yield decreased in all the States or groups of States reported except Colorado, where it increased by 0.25 ton per acre.

19 April, 1913.

The 1912 Sugar Beet Crop (continued)

The average price paid to farmers increased in all the groups, the average for the United States being \$5.50 per ton in 1911 and \$5.82 in 1912. The lowest average price in both years was paid in Idaho and Utah, where it was \$4.88 in 1911 and \$4.97 in 1912. The highest average price reported for 1911 was \$5.55, in Colorado, and for 1912 \$6.46, in California.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week of April 12 was 64, minimum 26; precipitation, 0.11 inch.

The ground was too wet for any field work and the time was devoted to the installation of a new line of telephone poles along the driveway to the east road and in making irrigation turnouts.

Delta.

The maximum temperature during the week of April 5 was 82, minimum 35.

The agricultural demonstration train from the University of California stopped at Stockton for a four hours' exhibition.

The past few slight rains have helped the barley a great deal. Asparagus has also improved, but the price is going down --from \$3.50 a box to \$1.25. Potatoes cannot be given away at 20 cents a sack. Some new potatoes have come in and are being sold at $3\frac{1}{2}$ @ 5¢ a pound. Pink beans have risen in price, now being listed at \$3.50 for uncleaned and \$4.00 for cleaned.

Several camps in the neighborhood have started potato planting.

19 April, 1913.

FIELD NOTES.

Umatilla.

The maximum temperature during the week of April 5 was 67, minimum 26; greatest daily range, 33; precipitation, 0.24 inch.

The time was devoted principally to improvement and extension of the distribution system. Two concrete structures have been installed and 500 feet of flume built.

The trees lost from last year's planting have been replanted.

Huntley.

No field work was done during the week of April 5, the ground being still too wet and frozen. Work was started on the construction of a septic tank.

Mr. Cole visited the farm on April 4.

Yuma.

During the week of April 5 lands A-1 to 5 and C-23 to 26, inclusive, were irrigated, cultivated, and made in readiness for planting cotton experiments.

Alfalfa was seeded to lands A-6 to 9, inclusive.

Two hundred and seventy pounds of date seed were received from the Experiment Station at Indio and distributed among the settlers of the Yuma Valley. This distribution was composed of the varieties Deglet Noor, Thoory, and Rhars.

The pruning of figs on orchard series C was begun.

Scottsbluff.

Mr. Knorr reports fine weather Monday and Tuesday of the week of April 12, when the irrigated rotation wheat on Field K was seeded and some other field work done. Tuesday afternoon it turned cold and by night it had begun to snow. It snowed more or less all day Wednesday and on Thursday the wind blew a gale all day from the north. By night the wind went down and on Friday and Saturday it was very warm.

19 April, 1913.

FIELD NOTES.

Scottsbluff (continued).

The fore part of the week 40 fruit trees were transplanted from the nursery to the orchard. About 15 cherry trees and 12 plum trees were also set out, and several hundred shade trees were planted in the windbreak.

On Saturday field work was again practicable and backsetting on the fall-plowed alfalfa was continued. The land is being put in shape for the rest of the small grains.

Umatilla.

During the week of April 12 the maximum temperature was 86, minimum 31; greatest daily range, 40; no precipitation.

Some additional fluming was made to replace small ditches in Fields C and D-1. The cracks were treated with coal tar-pitch to prevent excessive leakage, as is usual with wood flumes where used intermittently.

Canada field peas were planted on D5c and d.

Peach trees were set in to complete the planting in soil fertility experiment No. 3.

One acre in D4 was planted to sweet clover (M.alba).

Rye was doct out from about the plants in Field B4b.

Some time was spent in hauling bluegrass sod and placing it on the yard between the office and house, where it has been impossible, through five seedings, to get a stand of grass or clover, on account of the increased wind action at that point.

Truckee-Carson.

During the week of April 5 the maximum temperature was 79, minimum 22.

Four varieties of basket willows — Purple, Patent Lemley, Americana, and American Greed — were received and planted on the Indian School Farm near Stillwater. These cuttings were supplied by the Forest Service.

19 April, 1913.

FIELD NOTES.

Truckee-Carson (continued)

The following grain varieties were planted near Stillwater: Swan Neck barley; Big Four oats; Swedish Select oats; Early Mountain oats; Arnautka wheat; Ghirka wheat; Fretes wheat; Hayne's Blue Stem wheat; and Galgalos wheat.

Alfalfa was planted in the eastern end of Field C and in E-1, 3 and 5, with wheat as nurse crop.

Variety plantings of beets, peas, radishes, and lettuce were made in H3 and N12.

San Antonio.

During the week of April 5 the maximum temperature was 63, minimum 48.

There has been no rain in more than three weeks and the oat fields and pastures are beginning to show the effects of drought.

Something has caused considerable injury to the stand obtained from the second planting of milo on the rotation plats. The injury seems to be largely due to small ants that have eaten the grains, either before germination or after partial germination. This made partial replanting necessary.

The corn in the rotation plats and variety tests was cultivated.

The April series of soil samples for moisture determinations was taken.

The trees and shrubs on the grounds received the first irrigation of the season.

Mr. Hastings was at Boerne on Monday and Tuesday on a collecting trip. The season is much later than usual and but few specimens were obtained. One new species of yuccas and three native ornamental shrubs were added to the collection.

Messrs. Meade and Taylor arrived at the station April 4.

During the week of April 12 the maximum temperature was 82, minimum 56.

Though no frost occurred in the immediate vicin-

19 April, 1913.

FIELD NOTES.

San Antonio (continued)

ity of San Antonio, severe frosts are reported from districts a short distance north.

Cotton was planted on the rotation plats April 10. This completes all planting on the rotation plats for the season.

The irrigated and dry-land cotton for the thinning experiments were planted on C3 and D3 on Monday; about 1 acre under irrigation and 2 acres under dry land conditions.

Ten varieties of long staple cottons were also put in under irrigation for a yield test.

Twelve varieties of cotton were put in on C4 for a yield test.

About 1 acre of cotton in the same field was put in, which includes a miscellaneous lot of seed.

About $1\frac{1}{2}$ acres of Acala was planted on AB2.

Aside from the successive planting experiments, this completes the cotton planting for the season.

Mr. J. H. Kinsler was at the station on the 8th, 10th and 11th.

SPECIAL PERSONAL EQUIPMENT.

In a note under above head appearing on page 8 of the WEEKLY BULLETIN of March 15, 1913, it was stated that a voucher submitted by Mr. Headley for rubber boots and overshoes had been returned with the statement that under a decision of the Comptroller of the Treasury items of a personal character could not be purchased in the field. It was added that possibly equipment of this kind could be secured through the Bureau Property Room and sent to field stations for use, and that upon the first specific request a test of this method would be made. A request from Mr. Knorr has given opportunity to make this test, and the requisition has gone through without trouble.

26 April, 1913.

ESTIMATES FOR FISCAL YEAR 1914.

Each of the experiment farms operated by Western Irrigation Agriculture should mail to the Washington office, not later than June 1, 1913, an itemized estimate of the funds required for operations during the fiscal year 1914, ending June 30, 1914. The following outline is suggested as one that might be followed in the classification of the estimates.

Salaries.— All employees expected to serve under appointment, by name where the name is known, and in any event by title, showing salary rate and estimated length of service during year. This should not include statutory salaries. The unskilled laborers should be classed according to rate of pay and estimated length of service.

Travel.— This should be estimated by authorizations—that is, local travel under an operating authorization, to be performed by the superintendent and assistants, should be given as one item, and each special trip under a special letter should comprise a separate item, the names and titles, or at least the titles, of the travelers, the scope and purpose of the travel, and the amount to be expended being given in each case.

Equipment.— So far as known, each of the larger, more expensive, and more important items of equipment should be listed separately. A lump estimate should also be made for all of the smaller and less expensive articles.

Supplies.— A lump estimate for supplies for consumption (non-inventoriable supplies and articles, etc.) will be sufficient, but if there is to be anything unusual in their nature or quantity it would be well to give some explanation.

Transient Labor.— The estimated total number of days' work done by transient labor, the average rate paid, and the estimated total sum required.

Permanent Improvements.— Buildings, fences, wells, etc. These should be itemized and their cost estimated. If not already discussed with Mr. Scofield, the need for each should be explained.

26 April, 1913.

Estimates for 1914 (continued).

Miscellaneous.— Expenditures included under no other head, such as freight, express, telegraph, telephone, horse hire, post office box rent, irrigation water, ferry charges, etc. etc. These should be itemized as fully as practicable.

The total of the estimates given under the heads listed above should give the estimated total required from the lump fund. After this total has been secured there should be added thereto the estimates for statutory salaries.

The amount to be covered by the general authorization for operating the farm should be given, and if any change is desired in the scope of the authorization, suggestions should be made. This estimate should be given in an item separate and distinct from the detailed estimates as outlined above.

It is suggested that, where practicable, the estimates be submitted in duplicate, in order to expedite their handling in the Washington office.

BOUND VOLUMES OF WEEKLY BULLETIN.

Volume II of the WEEKLY BULLETIN, completed with the issue of March 8, 1913, is being assembled and bound and a copy will be supplied to each farm within a short time. These bound volumes may be used to replace the separate numbers and the latter either discarded or filed by subjects.

Besides the usual index of fiscal and miscellaneous subjects, there has been included in this volume a complete index of the field operations arranged alphabetically under each farm. It is believed that this feature will prove to be very useful to the farms and to the Washington office.

26 April, 1913.

FIELD NOTES.

Scottsbluff.

During the week of April 19 the maximum temperature was 80, minimum 29. With the exception of two days of wind storms, the weather was very good.

Irrigated rotations.

All oat plots were leveled preparatory to seeding.

Dry Land rotations.

All of the barley was seeded.

General work.

Considerable work was done during the week in the orchard and tree nursery. During the winter much soil had drifted in, piling up from 4 inches to 1 foot between some of the rows. All of this had to be taken out.

The barley varieties were seeded.

The land for the sugar beets was backset, harrowed and leveled.

Huntley.

During the week of April 12 the men were employed in constructing a sewage system for the farm buildings. By Saturday the ground was dry enough to begin field work.

All alfalfa plots in fields A and B were harrowed.

All fall-plowed plots and corn stubble in dry land rotation field were disked.

A large number of trees (box elder and elm) from the forestry plot in Field B were distributed to the farmers of the project.

Delta.

During the week of April 12 the maximum temperature was 87, minimum 33.

Mr. B. Madison, Agronomist, of the University of California, visited the station Saturday in connection with the work of the State Farm and Delta Association.

Mr. B. St. John Green, Farm Clerk, has resigned from the service, to take effect April 15, accepting a position in a mercantile establishment at Holt, Cal.

26 April, 1913.

FIELD NOTES.

Truckee-Carson.

The maximum temperature during the week of April 12 was 79, minimum 17, mean 48.

Fields C, D, E, F, and S were irrigated.

Bids were sent out for 32 galvanized iron cylinders to be used in soil experiments. The cylinders are to be 15 inches in diameter and 30 inches long. These cylinders are to be driven into the soil in the field and are to remain there, different treatments being given to the different sets.

Yuma.

The maximum temperature during the week of April 12 was 92, minimum 41.

Grain sorghum varieties were planted on plats D-22 and 23 on the 12th.

Lands C-37, 38 and 41, and D-38 to 46 were irrigated and put in condition for cotton plantings.

The pruning of seedling fig trees on orchard C-8 to 17 was completed. From an actual count it is found that 46 per cent of these trees survived the winter temperatures uninjured, while another 1 per cent were only partially killed above the ground.

Forty-five plants of various varieties of berries and thirty grape vines were received from nurseries and planted to field positions.

Sixteen Carod trees were transplanted from the nursery to orchard row.

Cotton branches which were buried in sand during the winter have been made into cuttings and planted to the field.

Plats A-14-4 and 5 were manured, plowed, and prepared for planting date nursery.

Messrs. Blair, Peterson, and Stout made a trip into the mountains north of Laguna Dam on Friday to secure specimens of native plants worthy of planting on the station grounds. Several desert plants were obtained, the best specimen of which was an 8-foot plant of the native *Cereus* species.

Mr. Enrique C. Moreno, of Mexico, spent Wednesday at the farm observing the various agricultural experiments that are being conducted there.

26 April, 1913.

INVENTORY.

Reclassification.

The work of reclassifying the items on the inventory of Western Irrigation Agriculture has been completed and the circular containing the list of items on the inventory of this Division as now classified has been "planotyped", and copies will be assembled, bound, and mailed to the various experiment farms within the next few days.

It is desired that the inventory for the Division to be submitted for the fiscal year ending June 30, 1913, be arranged in accordance with the new classification. It is suggested that the most feasible method for establishing the inventories on the new basis will be to make the necessary changes in classification on the card inventories at the field stations, exercising care in this operation to retain the identity of items by their history; that is, by the date on which they were secured, the firm from which purchased, their price, etc. This should be done prior to July 1. The inventory for the fiscal year 1913 can be rendered under the new classification and submitted with a letter making any explanations that may seem necessary or desirable. Any items not understood in the Washington office can then be straightened out by correspondence.

The first 11 pages of this circular contain full instructions as to how the inventory of a field station of this office should be handled, and may be used for reference or for the instruction of clerks new to the service.

FIELD TRIP BY MR. FARRELL.

Mr. Farrell will leave Washington May 1 for a field trip of about two months' duration. His itinerary will include San Antonio, Salt River Valley, Yuma, Imperial Valley, Stockton, Truckee-Carson, and Scottsbluff.

3 May, 1913.

PARCEL POST.

Limit of Weight under Frank.

Memorandum for Heads of Offices, dated April 25, and signed by the Chief of Bureau, reads as follows:

"For your information there is given herewith copy of a letter from the Chief Clerk of the Department, dated April 17, 1913, with regard to the parcel-post law, which is self-explanatory:"

'Regarding the effect of the parcel post law contained in the Act of Congress of August 24, 1912, on mail matters sent by government establishments under frank, I have to inform you that I am in receipt of the following from the Postmaster General, from which it will be noted that official matter partaking of the nature of fourth-class matter may be sent by the several departments under penalty envelope or label, not exceeding eleven pounds in weight'.

'In the opinion of the Attorney General, dated February 28, 1913, it is held that since the Act of June 26, 1906, permits the mailing under penalty privilege of official matter which 'would be entitled to admission to the mails under laws requiring payment of postage,' and since 'fourth-class mail matter,' as defined by the parcel post law of August 24, 1912, is admissible to the mails to the extent of eleven pounds in weight, the limit of weight of such official matter as partakes of the characteristics of 'fourth-class mail matter' is by that Act increased to eleven pounds. It is, therefore, permissible under the law for an executive department or officer of the Government to send in mails, free of postage, under a penalty envelope or

3 May, 1913.

Parcel Post (continued)

label, official matter partaking of the characteristics of 'fourth-class mail matter', not exceeding eleven pounds in weight'!

In this connection it should be noted that the regulation applying to private mail in regard to the size of parcel post packages applies also to matter under frank. This requirement is that packages shall not exceed 72 inches in length and girth combined.

FARM MAPS.

Now that the spring planting will soon be completed on the experiment farms, attention is called to the matter of sending farm maps to the Washington office as soon as possible. These maps should show the arrangement of the fields, series, and plats, and the crop planted on each plat during the current year. In cases where all the planting is completed or where it is definitely known what is to be planted on each plat, the maps should be sent in at once. One or two farms have already sent in their maps for 1913. These maps are urgently needed in connection with the labor record work (See WEEKLY BULLETIN for February 23) and they are frequently useful for other purposes.

CROP REPORTER.

To be Mailed to Field Stations.

Arrangements have recently been made whereby the "Crop Reporter", a monthly publication of the Bureau of Statistics, will be sent regularly to each of the field stations maintained by this office. This publication contains much valuable information relative to crop conditions, prices, labor supply, wages, cost of production, etc., in the United States and to some extent in foreign countries. It will be a valuable

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3 May, 1913.

Crop Reporter (continued)

addition to the experiment farm libraries, and it is suggested that the files be kept complete, as the information is particularly useful in properly associating our work on the problems of crop production with questions of crop distribution and utilization.

ACCOUNTS.

Supplies from Stock.

For the past two or three years supplies secured for field stations under sub-requisitions drawn on the Bureau Property Room have been paid for from the allotment for the Washington office, no charge therefor being made against the funds of the field stations. A change in the accounting methods of the Property Room has made it practicable to make a separate charge for each sub-requisition, and, beginning July 1, 1913, each field station will be charged with the cost of all supplies of every kind secured for it from the Bureau Property Room. No charge will be made for supplies carried in stock in the office of Western Irrigation Agriculture.

The exact details of the method for handling these charges have not yet been decided and it is possible that charges for supplies may not appear in the accounts for some time after the supplies are secured.

This change should be taken into consideration in preparing the estimates for the fiscal year 1914, requested on pages 42 and 43 of the BULLETIN of April 26. The comparatively slight increase that will be necessary should be divided between "Equipment" and "Supplies". Since the charge for stock supplies will be placed against the allotment as a whole and will in no way affect any authorization, estimates for operating authorizations should be made without making any allowance for supplies secured from the stock room of the Bureau

3 May, 1913.

ASSOCIATIONS AND SOCIETIES.

Attendance at Meetings.

Memorandum No. 8, of the Department, dated April 21, 1913, and signed by the Assistant Secretary, reads as follows:

"Attention is hereby called to the following clause in the Act making appropriations for this Department for the fiscal year ending June 30, 1914:

'That nothing contained in the Act making appropriations to provide for the expenses of the Government of the District of Columbia for the fiscal year ending June thirtieth, nineteen hundred and thirteen, and for other purposes, approved June twenty-sixth, nineteen hundred and twelve, shall be so construed as to prohibit the payment from the appropriations for the Department of Agriculture of expenses incidental to the delivery of lectures, the giving of instruction, or the acquiring of information at meetings by its employees on subjects relating to the work of the Department authorized by law.'

In this and other legislation recently enacted, Congress evidently desires to fix strict limits for the expenditure of public funds for attendance at meetings, but recognizes that this Department has a peculiar mission to acquire and disseminate agricultural information. The Secretary being desirous that the policy of the Department and the action of its officers and employees in this matter should be in strict conformity with the letter and spirit of the law and conducive to the best interests of the public service, makes the following statement on this subject:

Authorizations for attendance at meetings will be confined chiefly to meetings of farmers, live stock growers and others interested in agriculture (including horticulture and forestry) assembled for the purpose of receiving informa-

3 May, 1913.

Associations and Societies (continued)

tion or instruction from employees of the Department on subjects relating to the work of the Department authorized by law.

Authorizations to attend conventions of scientific societies or associations or to give addresses at school, colleges, and other educational institutions will be given only to a limited extent and for the purpose of acquiring or giving information on subjects directly relating to the work of the Department authorized by law. Each case will be considered on its merits with special reference to the work on which the employee concerned is engaged.

All authorizations to attend meetings or other gatherings will be given by the Secretary on recommendation of the Chiefs of Bureaus and independent offices, except that said Chiefs may authorize the attendance of their field employees at meetings occurring in the course of their regular official travel when such attendance will be in the direct interest of their work and for the purpose set forth in the aforesaid law; and in the case of each authorization of this kind, a memorandum indicating the action and reasons therefor should be promptly sent to the Secretary's Office."

FIELD NOTES.

San Antonio.

The maximum temperature for the week ending April 19 was 91, minimum 43.

The corn on the rotation plats and in variety tests was thinned and the thinning followed by cultivation.

Mr. Meade reports that good stands of cotton were obtained in all cotton experiments, and seed conditions being ideal, the cotyledons were freed from the seed coat before leaving the soil, thus insuring normal development of the young plants. Egyptian cotton seed-

Handwritten text, possibly a signature or date, located near the top center of the page.



3 May, 1913.

FIELD NOTES.

San Antonio (continued)

lings were about a day in advance of those of Upland cotton, the seed of which was planted the same day. Foreign seeds imported as early as 1904 germinated freely after 9 years of storage.

Sorghum for hay was planted on B3 and D3.

The garden, cotton varieties, and Japanese sugar cane on D3 received the first irrigation of the season the latter part of the week.

The maximum temperature during the week of April 26 was 84, minimum 38. There was a total of 0.82 inch precipitation, which was recorded on three days.

Milo on the rotation plats and in the thinning and distance of planting experiments was thinned.

Corn, milo, cotton, and all intertilled crops were cultivated, as were also summer fallowed plats.

The oat plats for hay on the rotation experiments were cut April 23.

Two rows of Mexican seedling peaches were transplanted to the nursery from the bedded seed put in last fall.

Belle Fourche.

The maximum temperature during the week of April 19 was 86, minimum 38.

All of the grain plats on the dry land rotations have been disked, harrowed and seeded, as well as the peal plats.

Fields O and P have been leveled and harrowed preparatory to seeding oats.

The garden and a large portion of the grounds have been disked and dragged.

The variety grains on G-VIII, F-I, and F-III have been seeded.

Three hundred and fifty yellow pine and 1250 jack pine transplants have been received from the Forest Service nursery at Halsey, Nebr., and planted in the irrigated forestry plat.

The grain plats in the irrigated rotations have been disked and leveled for planting.

FIELD NOTES.

Belle Fourche.

The maximum temperature for the week of April 26 was 80, minim 24.

All of the rotation plats in field A not already seeded have been disked, leveled and harrowed. The grain plats seeded this spring have also been harrowed.

The oats were planted in the irrigated rotations on April 23, and the seeding of oats on fields O and P has been started.

The wheat, barley, and peas in the irrigated rotations have also been seeded.

The alfalfa plats in field C have been cultivated.

Field D has been disked, harrowed and seeded to oats.

Thirty-five hundred cottonwood seedlings and 1250 Russian olives have been received and planted in the irrigated forestry.

Yuma.

The maximum temperature for the week of April 19 was 93, minimum 41; greatest daily range, 48.

Egyptian cotton experiments were planted to plats A-1, 2, 5, C-19, D-18, 44, and 45.

Fifteen varieties of Upland cotton were planted on C-20.

Alfalfa was harvested from lands B-31, 32, C-39 and 40. The alfalfa on lands B-9 to 12, C-6 and 7, D-14 to 16, and D-27 has also been mowed. The first crop of the greater quantity of alfalfa in the valley is being harvested during this week and in nearly all fields the yield is unusually low, due to the late frosts which have checked the growth.

Alfalfa on fields B-31 and 32, also C-39 and 40 was renovated.

The fig and date orchards on fields C-8 to 17 and A-18 to 21 were furrowed, irrigated, and cultivated.

Twenty-six plants of different orchard and ornamental trees received from S. P. I.

3 May, 1913.

FIELD NOTES.

Scottsbluff.

For the week ending April 26 Mr. Knorr reports:

To date we have not had any moisture this spring with the exception of the rain last week of nearly 0.2 inch. All of this week the wind has been blowing a gale, making all outside work almost unbearable. In order to get our oats in we had to make a wind shield in front and back of the drill.

Our spring wheat varieties were up by the first of the week, but the winds have left not even a vestige of what was there. We hope that this wheat will again come through as soon as the wind stops.

Dry Land Work.

The oats on the dry-land rotations were seeded and harrowed. Soil samples were taken on all of the required plats.

Plat A of the M. C. work on the winter wheat is in as bad shape this spring as last, on account of the exposed position most of this wheat is blown out.

Irrigation rotations.

Leveled and harrowed all of the oat and beet plats.

Prepared the alfalfa plats and seeded same.

Oats seeded and plats harrowed.

All of the spring plowing on the rotation plats was finished.

Alfalfa count.

The count was as follows:

Plat.	This year's count.	Last year's count.	Loss during winter.
K-I-8	851	701	7.1%
K-IV-13	559	667	16.0%
K-V-13	508	492	37.0%

Mr. Holden states that the plants on these last two plats are much weaker than those on other plats. The above are from last fall seeding in the grain stubble. The count of the year old alfalfa is as follows:

3 May, 1913.

FIELD NOTES.

Scottsbluff (continued)

Plat.	Plants.	Plat.	Plants.
A	194	E	206
B	176	F	198
C	206	G	161
D	335	H	254

being a total of 1,730, or 865,000 plants per acre.

General work.

The oats varieties were seeded and several acres of oats seeded for feed.

Some alfalfa was put in, but as the soil is very dry it is doubtful if this will grow until we have some moisture.

We are getting the land in shape for sugar beets but dislike to seed on account of the dry soil conditions.

We have received from the Forest Service 1,500 ash seedlings, 750 jack pine, 750 yellow pine. These, as well as 300 poplars, were set out during the week. On account of the high winds we have had the evergreens suffered very much and it is doubtful if any of these will pull through.

Umatilla.

The maximum temperature during the week of April 19 was 76, minimum 33.

Rye was hoed out of field B3.

A light application of manure was given to A2 and a part of the field prepared and potato varieties planted.

Truckee-Carson.

The following varieties of plants were received from Chico, Cal.

Acer sp.

Berberis sp.

Caragana Chamlagu

Eleagnus angustifolia

Fraxinus sp.

Salix sp.

Salix viminalis.

3 May, 1913.

FIELD NOTES.

Truckee-Carson (continued)

The Eleagnus and Salix varieties were planted in field S; the remainder were potted in the greenhouse.

The maximum temperature for the week of April 19 was 73, minimum 28.

Huntley.

During the week of April 19 spring wheat and peas in the dry land rotation field were seeded.

In Field K all fall-plowed plats were disked and harrowed, and alfalfa plats crowned last fall were backset.

The ground in AII to be used for pasture grasses was prepared for seeding.

Trees were set out in the orchard to replace those that were winter killed.

10 May, 1913.

PASTURE GRASS TEST AT HUNTLEY.

Mr. Hansen reports that the planting in the pasture grass test at Huntley was completed April 23, the planting being done on Field A-II. This test includes four different methods. The first three will test different mixtures of pasture grasses and legumes and the fourth will test the grasses separately. Mixture A contains timothy, red top, Bromus inermis, meadow fescue, tall fescue, Italian rye grass, western wheat grass, perennial rye grass, and tall oat grass. Mixture B is the same as A, except that white clover and alsike clover are added, each being planted at the rate of 2 pounds per acre. Mixture C is the same as B, except that alfalfa is added, at the rate of 2 pounds per acre. The plantings of these mixtures were made on land where flax was grown in 1912, each mixture occupying a quarter-acre plat. All the grasses in the three mixtures were also planted separately in twentieth-acre plats, in order that the behavior of the different grasses can be more readily studied.

Since plans are now being perfected for the importation of dairy cows on the Huntley Project, much local interest in the progress of the pasture tests will probably develop. It is expected that some new rotations will be started next year to test the practicability of including pasture grass mixtures in the cropping systems of the project.

TRANSPORTATION REQUESTS.

For Sleeping Car Accommodations.

A memorandum from the Chief of Bureau, dated May 5, 1913, calls attention to the desirability of procuring sleeping car accommodations on separate transportation requests in the name of the Pullman Company, instead of purchasing both Pullman accommodations and railway ticket on the same request.

10 May, 1913.

TIME.
Applications for Sick Leave.

The Bureau time clerk has recently returned several applications for sick leave of two days or less, with request that fuller explanation be made as to why the services of a physician were not required. The Chief Clerk of the Bureau will not accept such statements as "Unnecessary", "Not required", "Not necessary", "Not needed", and the like.

PUBLICATION.
In Scientific and Technical Journals.

"Memorandum for the Secretary" No. 16, dated April 28, reads as follows:

Dear Mr. Secretary:

For the last five or six years the appropriations for the work of the Department have grown rapidly, while the appropriations made for publishing results of investigations have grown slowly. As a result there is a great deal more material being accumulated which should be published than it is practicable to publish, owing to lack of funds and for other reasons. For the last ten or twelve years it has been the policy of the Department not to permit any of its technical work to be published outside, with the result that there has been considerable stagnation, and some rather important results have been lost through lack of timely publication.

It is believed that by taking advantage of existing specialized avenues of publication the usefulness of a considerable amount of scientific and technical work done by the Department would be increased and the financial strain, which is now a serious handicap to the Department, would be practically removed. It is the practice of many institutions, as you know, using public money, to permit publications of this kind in outside reputa-

10 May, 1913.

Publication (continued).

ble journals, provided in all cases proper credit is given to the institution.

I would therefore respectfully recommend that hereafter reports of technical research, designed particularly for the attention of scientists in other institutions, be published in any scientific journal which is presumed to reach most satisfactorily those scientists. In no case, however, should the authors accept compensation for such articles. Manuscripts for scientific and technical journals should receive the approval of the Chief of the Bureau in which the paper originates, and should also be submitted to the Secretary's office before being forwarded for publication.

Very respectfully,
(Signed) B. T. GALLOWAY,
Assistant Secretary.

Approved:

(Signed) D. F. HOUSTON,
Secretary.

FIELD NOTES.

Umatilla.

The maximum temperature during the week of April 26 was 80°, minimum 28°.

The week was devoted principally to preparing land for garden crops, hoeing, irrigating, and planting.

Twenty-one varieties of watermelons were planted. Of this number, 9 varieties were from the office of S. P. I.

The spring has been extremely backward and the weather is still unsettled, there being frequent cold winds and frosts.

10 May, 1913.

FIELD NOTES.

Umatilla (continued).

A minimum temperature of 28° on the night of April 22 caused a heavy loss in all fruit crops. It also froze the tender grape vines and potato plants back and took the young shoots off locust trees in low places over the project. The lowest temperature registered on the highest part of the farm was 31°. This station is 52 feet above the instruments near the buildings.

Huntley.

The maximum temperature during the week of April 26 was 78°, minimum 25°.

During the week wheat, oats, and beets in the irrigation rotation field were planted.

Planting of pasture grasses and forage mixtures in Field A-II was completed.

A meeting of the Project and of Billings bench farmers was held at Huntley on Tuesday of the previous week, at which Mr. Lambert, of the Bureau of Animal Industry, gave a very interesting talk. Much interest was manifested by the farmers and steps were taken to organize a Project Dairy Association. In connection with this move the local bank is planning to ship in a number of high grade dairy stock from some eastern dairy section and selling them at actual cost to members of the association on time payments at very reasonable

Director F. B. Linfield, of the Montana State Station visited the farm on Wednesday.

10 May, 1913.

FIELD NOTES.

Yuma.

The maximum temperature during the week of April 26 was 93°, minimum 42°; greatest daily range 43°.

Much time during the week was consumed by laborers hauling and stacking alfalfa from fields cut the previous week and also fields D-6 to 11 were harvested. The highest yield of the first cutting secured from the experiment farm was from Chilean alfalfa, the amount being 2,870 pounds per acre.

Alfalfa row plantings on fields C-42 to 46 were cultivated.

The Egyptian cotton grown in the valley in 1912 was marketed and shipped. The total crop was 22 bales, 17 of which sold at 23-1/4 cents per pound and five at 20-1/2 cents per pound, f.o.b. Holyoke, Mass.

Fields E-9 and A-15-5 were planted to cotton.

The seedling date palms on fields A-18 to 21 were pruned of all the frost injured leaves. This was found to be considerably less than one-half of the growth exposed to freezing temperatures.

About 1/4 acre of date nursery was planted to date seed on lands A-14-5 and 6.

San Antonio.

The maximum temperature during the week ending May 3 was 87°, minimum 45°. A shower of 0.53 inch fell on the morning of the 3rd.

As has been stated in previous reports, the Amygdalus davidiana introduced under various S.P.I. numbers give promise of being the best stock for stone fruits, such as peaches, plums, etc., that has been tested here. A new tree, Pyrus betulae-folia, (S.P.I.No.21982), gives promise of being of equal if not greater value as a stock for pears. The chief difficulty with growing the pear on its own roots in this vicinity is that it is subject to various fungous diseases of the soil and also suffers severely from chlorosis. This wild pear is apparently quite resistant to these troubles.

10 May, 1913.

FIELD NOTES.

San Antonio (continued).

Oat hay from seven of the rotation plats was drawn in. The yields from these plats are given in the following table:

Plat Number	Pounds per plat.	Pounds per acre.	Tons per acre.
A5-3.....	1158	4632	2.30
A5-6.....	1144	4576	2.29
B5-7.....	1235	4940	2.47
A6-5.....	1572	6238	3.14
A6-8.....	1786	7144	3.57
A6-10.....	1604	6416	3.20
A6-13.....	1526	6104	3.05
Average.....	....	5728.6	2.86

Mr. Scofield visited the station the latter part of the week.

Truckee-Carson.

The maximum temperature during the week of April 26 was 81°, minimum 26°.

The trees in Field A were trimmed.

Twenty-five pounds of Jerusalem artichokes were planted.

Between February 4 and April 21 determinations of the depth to ground water have been made 10 times. On February 4 the average depth to ground water in 18 test wells was 4.99 feet, and the average depth on April 21 was 4.16 feet, the total average rise during the 77 days being 0.83 foot. There was a slight recession of the water table between February 4 and 11, and again between February 18 and 26, but since March 3 the water table has gradually risen, as is shown in the following table:

FIELD NOTES.

Truckee-Carson (continued)

Date	Number of wells.	Average depth to water (feet)	Rise since preceding reading. (feet)
Feb. 4	18	4.99	....
11	18	5.09	- 0.10
18	17	4.87	+ 0.22
26	16	4.89	- 0.02
Mar. 3	16	4.89	0.00
17	18	4.67	+ 0.22
31	18	4.63	+ 0.04
Apr. 9	19	4.46	+ 0.17
15	19	4.34	+ 0.12
21	19	4.16	+ 0.18

Huntley.

During the week ending May 3 wheat, oats, and barley were seeded in Field B-VII, in the phosphorous fertilizer test plats.

Seeding of all beet plats, except KV-3, was completed in the irrigation rotation field.

The remainder of the time was spent in preparing ground for seeding alfalfa and potatoes in the irrigated rotation field, and plowing alfalfa in field C-II.

There has been but little rainfall for the past month, and much cold dry wind, with the result that there is in most cases insufficient moisture in the surface soil to germinate spring-sown crops.

10 May, 1913.

FIELD NOTES.

Scottsbluff.

Mr. Knorr's report for the week ending May 3 is as follows:

The dry weather continues; also the high winds. Tuesday last (April 29) the average wind velocity for 24 hours was 52.5 miles per hour. So far, no serious damage has been reported from this blowing, but crops are making little progress.

Nearly all the sugar beets in the valley have been planted. But few will come up until rain falls.

Irrigated Rotations.

The potato ground in the irrigated rotations has been put in shape and is ready for planting, which will be postponed until some moisture is had,

Alfalfa has been seeded on these rotations.

The alfalfa seeded in the stubble last fall is making good growth.

Dry Land Rotations.

All of the grain on the dry land rotations is coming up.

Ray and brome grass are beginning to show the effects of dry weather.

The moisture determinations of the past two weeks show no moisture at the depth of six feet, and some of the plats but very little moisture at the 5-ft. boring.

General Work.

I went to Morrill on Tuesday to give a talk before the Ladies Club of Morrill and the farmers' wives on planting trees about the homes.

PUBLICATION.

The WEEKLY BULLETIN of March 22, 1913, contained a complete list of the Bureau publications since January, 1907, relating to the agriculture of the western United States, in the preparation of which this office was directly concerned. Following is a list of such publications since that date. As in the previous list, the titles of those written by men outside this office are preceded by an asterisk.

BUREAU NUMBERED CIRCULARS.

No.	Date of issue.	Title.	Author.
118	Mar. 1913	The economics of crop disposal.....	C.S.Scofield
118	Mar. 1913	*The abortion of fruiting branches in cotton.	O.F.Cook
118	Mar. 1913	Fruit growing on the Truckee-Carson Project.	F.B.Headley V.Fulkerson
119	Mar. 1913	The work of the Belle Fourche Experiment Farm in 1912.....	Beyer Aune
119	Mar. 1913	*Arabian alfalfa.....	Roland McKee
120	Apr. 1913	The work of the San Antonio Experiment Farm in 1912.....	S.H.Hastings
121	Apr. 1913	The culture of Durango cotton in the Imperial Valley.....	A.McLachlan
121	Apr. 1913	*The control of the sugar beet leaf spot....	V.W.Pool M.B.McKay
121	Apr. 1913	The work of the Huntley Experiment Farm in 1912.....	Dan Hansen

Publication (continued).

No.	Date of issue.	Title.	Author.
121	Apr. 1913	*Methods of securing self-pollination in cotton.....	R.M.Meade
122	Apr. 1913	The work of the Truckee-Carson Experiment Farm in 1912.....	F.B.Headley
122	Apr. 1913	*Feterita, a new variety of sorghum.....	H.N.Vinall C.R.Ball
123	Apr. 1913	*Factors affecting the production of long-staple cotton.....	O.F.Cook
123	Apr. 1913	Egyptian cotton culture in the Southwest....	C.S.Scovfield
124	Apr. 1913	Agriculture on the Yuma Reclamation Project.	C.S.Scovfield

ANALYSES.

Of Water, Food, Drugs, Insecticides, etc.

Memorandum No. 17, dated May 3, 1913, and signed by the Assistant Secretary, reads as follows:

"The Department receives numerous requests for the analysis of waters, foods, drugs, insecticides, and other miscellaneous products. To comply with all the requests received would make a great drain on appropriations for other purposes and impede official work. No appropriation has been provided for this purpose, and the Department therefore will not be in position to make analyses for private parties.

17 May, 1913.

FIELD NOTES.

Yuma.

The maximum temperature during the week ending May 3 was 98°, minimum 42°.

Alfalfa from fields C-27 and 28 was harvested.

Alfalfa on lands D-6 to 11 was renovated.

Egyptian and Durango cotton experiments were planted on fields C-23, 24, and 25.

Other cotton experiments were planted on plats D-39 and 40.

The earliest planting of grain sorghum on plats D-20 and 21 was thinned.

Hemp plantings for seed production on D-17 were thinned.

Two laborers have been employed throughout the week hoeing weeds and Bermuda grass from farm ditches, fence lines, and roads on the north and east sides of the farm.

Weeds and grass were cut from pomegranates, date orchards, and date nurseries on A-14.

The Eucalyptus rudis trees about the farm fences which were damaged by the winter frosts have put out sufficient new growth to necessitate the pruning to a single stalk.

The date trees following these farm roads were also pruned of dead foliage.

Umatilla.

The maximum temperature during the week ending May 3 was 69°, minimum 32°; greatest daily range 32°.

Additional land was prepared and seeded.

A large number of miscellaneous varieties of garden vegetables were planted in A2.

The work of irrigating continued during most of the week.

Rye was disked out from along the tree rows in fields C-3, 4; D-1a and b; abd D-5 a, b and c.

17 May, 1913.

FIELD NOTES.

Truckee-Carson.

The maximum temperature during the week ending May 3 was 73°, minimum 21.

Thirty-five soil cylinders, 15 inches in diameter and 30 inches long, were sunk in field D, so as to leave 6 inches of each cylinder above ground. In these cylinders will be conducted a series of experiments in the irrigation of alfalfa and the reclamation of alkali soils.

Field F-9 was leveled and made ready for a planting of sugar beets.

Smudge pots were filled and placed in N-10 ready for use.

Field D-1 to 13, F-2-3-4, and Z were irrigated.

CORRECTION.

In the table giving depths to ground-water under Truckee-Carson field notes, on page 63 of the BULLETIN of May 10, 1913, all the mathematical signs preceding the figures in the last column should be plus, except in the cases of the first and third items.

San Antonio.

The maximum temperature during the week ending May 10 was 88°, minimum 54°, greatest daily range 29°.

A shower of 0.48 inch came Monday night, making necessary the cultivation of all crops and fallow land.

A small area of oats for seed was cut on C6.

Oat hay from C6 was drawn in and stacked near the barn.

17 May, 1913.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week ending May 3 was 89°, minimum 33°.

The ground for the pasture experiments on Field K has been disked and harrowed.

The oats in Fields L and K have been seeded and the ground harrowed.

Seeding oats in Fields O and P has been completed and the ground harrowed.

Alfalfa plats A-II-29 and A-III-23 have been irrigated.

The corn, potato, and sorghum plats in the dry-land rotations have been plowed, disked, and harrowed.

The sugar beets in the irrigated rotations were seeded May 1.

The ground for alfalfa in Field K has been disked and leveled.

Series I in Field G has been laid out and planted to dry-land orchard. The following varieties of large and small fruits have been planted:

Apples: Malinda, Longfield, Wealthy, Oldenburg, Pewaukee, Yellow Transparent, Ben Davis, Jonathan, Northwestern Greening, Florence, King David, Whitney, Delicious.

Cherries: Homer, Compass.

Plums: Forest Garden, Terry, DeSoto, Hawkeye, Wolf.

Gooseberries: Mt. Seedling, Pearl, Houghton, Industry, Carrie.

Currants: Champion, Cherry, London Market, Red Dutch, Fay's Prolific, Perfection, Downing.

Raspberries: Loudon, Sunbeam, Cuthbert, Marlboro, Miller.

Black Caps: Olin, Gregg, Kansas.

Blackberries: Snyder, Badger, Missouri, Rathbun, Eldorado, Stone's Hardy.

Strawberries: Bederwood, South Dakota, Haverland, Crescent, Warfield, Clyde, Gandy, Senator Dunlap, Aroma.

17 May, 1913.

FIELD NOTES.

Belle Fourche (continued)

All of the tree and shrub material for the Newell park that is to be handled this spring has been received and planted. This consists of the following:

19 common barberry; 45 common snowball; 21 common purple lilac, 34 Rosa rugosa, 8 Hydrangea paniculata grandiflora, 10 juneberry; 23 high bush cranberry, 25 mock orange, 5 laurel-leaf willow, 8 purple barberry, 9 Carolina poplar, 9 Lombardy poplar, 3 Buffalowberry, 28 Spiraea van houti, 28 Spiraea opulifolia, 11 Spiraea billardii, 8 common alder, 23 golden elder, 10 Siberian dogwood.

Weather Record for April.

Mean temperature.....	49
Maximum temperature.....	89
Minimum temperature.....	25
Precipitation.....	0.25
Wind velocity.....	6.1

The maximum temperature during the week ending May 10 was 72°, minimum 27°; precipitation, 0.08.

Field K has been leveled and harrowed for alfalfa.

The potatoes in both dry-land and irrigated rotations have been planted.

Field E has been disked and harrowed.

Alfalfa has been seeded in Field K, with about 1-1/4 acres with a nurse crop of flax. This field has also been rolled.

The alfalfa and brome grass nurseries on Field G have been cultivated.

All the potato plats in the irrigated rotations have been gone over with the weeder.

The potato and brome grass plats in Field B have been harrowed.

A-III-27 has been seeded to mangels.

All of the alfalfa plats in the irrigated rotations to be planted this spring have been seeded, as well as plats A-II-31 to 36, inclusive, and A-III-33, 36, and 43.

17 May, 1913.

FIELD NOTES.

Belle Fourche (continued)

Alfalfa has also been seeded on plats A-III-37, 38, 41, and 42, with a nurse crop of wheat.

Red clover has been seeded on plats A-II-23 and 48 and A-III-46 and 27.

Alsike clover has been seeded on A-III-48.

Field F-IV has been disked and harrowed.

Planting garden was started on Friday.

PERSONAL.

Mr. Farrell left Washington May 11 for an extended field trip, his proposed departure May 1 having been delayed in order to enable him to attend the conference of water users called by the Secretary of the Interior.

FIELD NOTES.

Huntley.

The maximum temperature during the week ending May 10 was 73, minimum 31; precipitation .18".

The flax and alfalfa in irrigated rotation field were planted, and the seeding of beets in this field was also completed.

Plowing of alfalfa in Field C was completed and ground was prepared for seeding oats.

Oats, beets, wheat, and alfalfa were planted in Field M-1.

The weather has continued dry and rather cold for this time of year.

Truckee-Carson.

The maximum temperature during the week ending May 10 was 83, minimum 39.

Varieties of each of the following kinds of garden produce were planted:

Peas, radish, lettuce, beets, turnips, and rutabagas.

Varieties of potatoes planted in N-12 were Burbank, White Beauty, Colorado Pearl, Rural New Yorker, Red Ohio, Early Ohio, Early Triumph, Extra Early Triumph, White Ohio, Early Rose, New White Victor, Rusty Coat, Seneca Beauty, Irish Cobbler, Banner, and Livingston.

Fields F-E-C-D-Y-1 to 12, S, and N-12 were irrigated.

Scottsbluff.

May 8 and 9 there was a rainfall of 0.02 in., being the first moisture for a long period; but not enough to moisten the soil as deep as some of the seed that has been planted.

24 May, 1913.

FIELD NOTES.

Scottsbluff (continued).

The potatoes on the irrigated rotations have been planted with the exception of the two plats in rotations 60 and 61.

In the dry land rotations the work of edging up the plats was begun.

The corn plats in the dry land rotations were put in shape and on the 10th corn was planted on all but the listed plats.

The ditch along the north line fence on the northeast 40 was completed. This ditch is now in such shape that no trouble is expected from it this year.

Work was started on the dike along the north side of Fields A and B, connecting Series IV & V of A and I & II of B.

Irrigation of potato varieties and the potatoes for the irrigation experiments was begun.

Irrigation water was started May 8, but on account of gopher holes in the ditch little irrigation work was done until May 10.

The rye was beginning to suffer badly for water. The winter grain needed irrigation more than did the alfalfa and water was therefore run on the grain first.

On account of the late season, all farmers are far behind with their work. Many alfalfa fields are showing signs of burning from lack of water and time for applying it.

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In a letter to Mr. Farrell Mr. Knorr reports a severe hail storm on the 12th. The storm lasted more than two hours and some of the hail stones were the size of hen eggs. All told, 135 window glasses were broken at the farm, which included the hotbed. One farmer will have to reshingle his house, the hail passing through the shingles between the sheathing.

On Tuesday, the 13th, there was a miniature cloudburst that did considerable damage by washing.

FIELD NOTES.

Scottsbluff (continued).

On May 8 Mr. Farrell wrote to Mr. Knorr in regard to a point developed in the conference between the water users of the Reclamation projects and the Secretary of the Interior, viz:

One of the representatives from the Minidoka Project in Idaho stated that the most successful method he had tried in connection with getting crops started on blowing soil was to spread a thick layer of straw over the surface of the land immediately after planting the crop and then to run a disk harrow, with the disks straight, over the field.

In his reply Mr. Knorr states that this method was recommended by Mr. Alex. McPherson in one of his Government circulars years ago, and that he (Mr. Knorr) "recommended it to the farmers west of here about two years ago, and they thought that the cost of spreading the straw and doing this work would not be a paying proposition."

Yuma.

During the week ending May 10 leveling and preparation of the following new lands was completed: A15-3, A15-4, A-16 and A-17.

A15-3 and 4 will be seeded to Sudan and Tunis grass, while A-16 and 17 will be made a seedling date orchard. Date plants now growing in nursery plat A14-3 will be transplanted to these fields.

Field A-2 has been seeded to three varieties of broomcorn received through the office of Cereal investigations.

Alfalfa was harvested from the 1912 fall plantings on Fields C-42 to 46. This completes the harvest of the first crop of alfalfa from all plats, the acre yields of which are as follows:

24 May, 1913.

FIELD NOTES.

Yuma (continued).

Chilean.

Field.	Date planted.	Yield, pounds.	Tons per acre.
B-9 and 10...	Mar. 1912	1,000	.5
B-11 and 12..	Mar. "	940	.47
B-31 and 32..	Mar. "	2,870	1.44
C-6.....	Feb. "	300	.3
C-7.....	Feb. "	470	.47
C-27.....	Oct. 1911	1,210	1.21
C-28.....	Oct. "	784	.78
D-6 and 7....	Mar. 1912	945	.47
D-8 and 9....	Mar. "	1,610	.81
D-10.....	Apr. 1911	810	.81
D-11.....	Apr. "	355	.36
D-12.....	Apr. "	290	.29
D-13.....	Mar. 1912	892	.89
D-14.....	Mar. "	925	.93
D-15.....	Mar. "	785	.79
D-16.....	Mar. "	675	.68
D-27.....	Oct. 1911	435	.44
Average.....			.68

Peruvian.

C-39.....	Mar. 1912	2,110	2.11
C-40.....	Mar. "	2,245	2.25
C-42.....	Nov. "	380	.38
C-43.....	Nov. "	320	.32
C-44.....	Nov. "	480	.48
C-45.....	Nov. "	180	.18
C-46.....	Nov. "	50	.1
Average.....			

Peruvian lands C-39 and 40, seeded in March, 1912, produced the highest yields-2.11 and 2.25 tons per acre, respectively.

Messrs. Scofield, Morganthau, McLachlan, and Taylor arrived at the station Saturday for a very limited stay.

FIELD NOTES.

Belle Fourche.

During the week ending May 17 there was precipitation of 1.01 inch.

The work of the week consisted in planting a part of the garden, installing turnouts, culverts in the irrigated rotations, and cleaning irrigation ditches.

The water was turned into the main canals the first of the week, but no irrigation has been necessary owing to the rains the latter part of the week.

The weather continued cold and cloudy, so that the crops have made very little growth, except alfalfa and winter grains.

Scottsbluff.

In his report for the week ending May 17 Mr. Knorr states that the hail storm, hereinbefore referred to, cut alfalfa in the fields so badly that it ought to be mowed.

Irrigated rotations.

Potato planting on field K was finished and some of the plats that had been packed by the rain and hail were harrowed.

Irrigation of alfalfa was started but was stopped after the rain.

Corn was planted.

Dry Land rotations.

Planted corn and seeded clover, the soil being in fine condition.

General work.

Nearly all of the alfalfa and the winter wheat and rye were irrigated. The rye was suffering considerably.

All the potatoes, variety test and hill selections, were planted.

Grass mixtures and grass varieties were seeded.

FIELD NOTES.

Scottsbluff (continued).

Alfalfa was seeded on H-II, III, IV, and V.
Corn varieties were planted on the irrigated land.

A team has been purchased from the State University, two of the farm horses having been disabled by heaves.

Truckee-Carson.

The maximum temperature during the week ending May 17 was 81, minimum 31.

A portion of the drain tile become filled with sand and it was necessary to dig it out in order to clean it.

Soil samples, representing unproductive soil were secured on the ranches of A. Bauman, W. Lowry, H. A. Stevens, and Marion Stephenson. These samples will be analyzed for soluble salts.

The following data concerning the drainage pumping plant may be of interest:

Size of the sump, 12.04 ft. by 11.58 ft.

Depth to which water was lowered, 1.29 ft.

Cubic feet of water pumped was therefore 12.04 x 11.58 x 1.29, or 179.5 cubic feet, plus the inflow.

The inflow equals 1 ft. rise in sump in 2595 seconds, or 139.2 cu. ft. in 2595 seconds equal .0537 cu. ft. per second. Therefore, the inflow in 382 seconds (time of pumping) was 2.05 cu. ft.

179.5 cu. ft. plus 2.05 cu. ft. equal 181.55 cu. ft., the total amount pumped.

181.55 divided by 382 equals .476 cu. ft. per second, discharge of pump.

74 revolutions of the meter wheel indicated that 152 watts electricity was used in pumping 181.55 cu. ft. of water. Therefore, 1,000 watts will pump 1195 cu. ft. of water, and 1,000 cu. ft. of water will require 838 watts electricity.

FIELD NOTES.

Truckee-Carson (continued).

The cost of power is 7 cents per kilowatt hour. Therefore, the cost of pumping water per 1,000 cu. ft. is 5.87 cents, and the cost of pumping per acre foot is \$2.56.

Huntley.

During the week of May 17 crops were planted as follows: Flax in Field C-V; beets in C-II and III, time of irrigation test and distance of spacing and planting; potatoes in K; oats in C and B-IV; Bromus inermis in F, to sod down the part of field left fallow last season.

Most of the crops are in fair condition, although there is need of rain to germinate seed recently planted.

The office building is being moved to the new farmstead.

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BOOKS,
Purchase of, for field use.

"Memorandum for Heads of Offices", dated May 19, and signed by the Chief of Bureau, reads as follows:

"In order that books purchased from Bureau funds for use at field stations may be labeled and recorded in the Bureau Library, where a complete list of such books is maintained, it is very desirable that, except in cases where the books are needed to meet an acute exigency in the field, they be purchased in Washington and delivered to the Library for labeling. This has been the general practice for some time, but requests for the purchase of such books sometimes stipulate that the books be purchased from dealers near the stations and sent directly to the stations-a practice which results in more or less confusion and incompleteness of the Bureau records."

FIELD NOTES.

San Antonio.

The maximum temperature during the week ending May 17 was 95, minimum 57; greatest daily range 32. A precipitation of 0.54 inch was recorded on the farm, as compared with 1.90 inches by the Weather Bureau in San Antonio. There was practically no rain at the south end of the farm.

Oats for grain in the rotation plats were cut.

Cotton was cultivated after the rain.

Oat selections on A3 were harvested.

Mr. F. D. Farrell visited the station on the 14th to 17th.

Yuma.

During the week ending May 17 the maximum temperature was 98, minimum 49; greatest daily range 46.

All cotton and sorghum lands on the farm were cultivated during the week.

Date orchards on lands A-18 to 21 were cultivated.

The third planting of grain sorghum varieties was seeded to lands D-24 and 25.

Row and broadcast planting of Sudan grass and Tunis grass were seeded to lands A10-2, A15-4, D-38, 41 and 42.

Fig orchard, C-8 to 17, was pruned of root sprouts for the second time.

A census of orchard plantings, lands B-25 to 30, has been taken. Out of 315 trees planted, 49 have failed to grow, 33 of this number being persimmons and budded pistache. Of the 829 Eucalyptus rudis trees planted during the summer of 1912 along roads 1 to 7, 278 were killed by the winter freeze and required replanting. The seedling date orchard, seeded in 1911 on lands A-18 to 20, includes 460 palms. Thirty-six of these have blossomed this season for the first time. Of this number, 30 are male and 6 female. The female trees have been pollinated.

FIELD NOTES.

Huntley.

The maximum temperature during the week of May 24 was 80, minimum 34; precipitation, 0.13.

Planting of potatoes in Field K was completed.

Corn plats in both dry and irrigated rotations and in Field C-V (variety test) planted.

All alfalfa in Field B was irrigated.

The old office building has been moved to the new building site.

Scottsbluff.

During the week of May 24 there was a total rainfall of 0.44 inch.

All of the crops are in good condition, except the sugar beets. The hard rains and hail packed the soil very hard and many of the beets are not able to come through. Harrowing or going over the land with a weeder does but little good.

All of the small grain on Field K (irrigated rotations) was harrowed in order to break the crust.

The clover and alfalfa plats in the dry land rotations were seeded.

Field beans were planted and some odds and ends of potatoes were put in.

All of the corn varieties and the corn in the irrigation experiment were put in.

About 300 bushels of potatoes were hauled to the dump. This work is almost finished, but a few loads remaining in the pit.

A thorough investigation was made of the well and it was found that the water is giving out. Inquiry in the neighborhood shows that a number of wells are giving out.

31 May, 1913.

CONTRACT AND BOND,
Limit for increased to one thousand dollars.

Department Memorandum No.21, dated May 13 and signed by the Assistant Secretary, reads as follows:

"As a general rule, a contract and bond will be required for supplies and materials procured under informal bids, and for construction work, when the aggregate amount involved is more than one thousand dollars. This requirement may be waived, however, when the articles are of regular standard make or manufacture, or in connection with the purchase of seeds for Congressional distribution when immediate delivery is required.

Existing instructions requiring a contract and bond in all cases when the aggregate amount involved is more than five hundred dollars are amended accordingly."

VOUCHERS,
Alteration of

The auditors are now drawing the lines very closely in regard to alterations on vouchers and any that contain the slightest evidence of having been changed must have all changes initialed by the claimant, or must bear a statement to the effect that the alterations were made prior to the receipt of the voucher in this office. Any alteration, erasure, interlineation, or correction of vouchers should be avoided, but when it does become necessary to make them they should be initialed by the claimant before the vouchers are sent to Washington.

7 June, 1913.

FIELD NOTES.

Belle Fourche.

The maximum temperature during the week of May 24 was 87, minimum 34; precipitation, 0.33 in.

Plat A-III-17 has been fenced and the hogs were turned in on the 20th.

Corn and flax were planted on the 22nd in the irrigated rotations.

Corn and summer fallow plats in the dry-land rotations were harrowed, and plat for flax was plowed, disked and harrowed.

On the 23rd corn was planted in the dry land rotations and flax varieties were seeded in A-II-45 & 46.

Corn varieties were planted on D-IV on the 24th.

The plats for pasture experiment were seeded on the 24th on Field K.

During the week the ground between the town site lateral and the field ditches was spring-toothed, leveled and seeded to alfalfa.

The grounds were seeded to alfalfa and rolled.

Crop conditions to date are very good.

San Antonio.

The maximum temperature during the week ending May 24 was 95, minimum 54. The total precipitation for the week was 0.68 inch.

All corn was cultivated with 1-horse cultivators, it having become too large to use the 2-horse implements.

The rest of the intertilled and fallow lands was cultivated.

Cotton on the rotation plats was thinned on Friday and Saturday.

Probably due in part to cool weather, the cotton is very backward this spring and is badly affected

7 June, 1913.

FIELD NOTES.

San Antonio (continued).

with leaf-curl, or tomosis. In some instances all the leaves of the plant are destroyed. Cotton on AB8 on the sandy soil is much less affected.

Grub worms are very numerous this spring and are doing a great deal of damage on surrounding farms. Some farms have reported planting cotton two and three times. Very little harm has been done to the crops on the station. The only places affected were on D3, where alfalfa and grasses were last season.

A plant shade 20 x 80 feet was constructed directly south of the greenhouse the early part of the week.

Truckee-Carson.

The maximum temperature during the week ending May 24 was 90, minimum 37.

A lesson was given on May 23rd by Mr. Headley to the High School class in Chemistry, on analyzing the soluble salts in soils.

A number of the sugar beet fields in the vicinity of Fallon have been attacked by cut worms. The amount of damage they will do cannot be accurately estimated, as the worms do not work uniformly over all fields, but are found in irregular areas with the boundary lines pretty well defined. Two farmers have lost about 70 per cent of their stand and will reseed. It has been found that the worms prefer those plants having from 2 to 4 leaves. They sometimes attack the stronger plants but do not usually cut entirely through the crown. In some places they work in colonies and in others they are distributed throughout the field. Wet bran poisoned with lead arsenate or Paris green is being tried, but it is too early to report results.

FIELD NOTES.

Truckee-Carson (continued).

A portion of the drain tile that had filled up during a previous irrigation was dug out and cleaned.

Varieties of the following kinds of garden truck were planted in Field N: Watermelons, muskmelons, cucumbers, squash, pumpkin, beans, sweet-corn, cabbage, and tomatoes.

Gypsum was applied to the east half of F-23 at the rate of 2 tons per acre, and to the east half of F-24 at the rate of 3 tons per acre. These two plats lie close to the line of drain tile and contain soil of such a nature that it has never produced a successful crop of alfalfa.

Umatilla.

The maximum temperature during the week ending May 10 was 82, minimum 35; greatest daily range, 38; precipitation 0.16 inch.

The principal work of the week consisted in irrigating, cultivating and preparation of additional land for row crops.

A heavy growth of vetch (V. villosa) which grew from a fall seeding on fields C-1a & C-1b, was cut up with a disk harrow and plowed under.

Of the three vetches (V. villosa, V. sativa, and V. dasycarpa) that have been tried out here, the V. villosa is much the hardiest and is the most rapid grower in early spring, which makes it preferable for green manure. V. dasycarpa, which was planted last fall, wintered well. but is not making a rapid growth. It is blossoming a heavy heavily, however, and shows a possibility of being seed producer.

A miscellaneous list of legumes was planted in rows in C-4 as a preliminary test for additional green manure crops.

FIELD NOTES.

Umatilla (continued).

The maximum temperature during the week ending May 17 was 70.5, minimum 39; greatest daily range, 27; precipitation, 0.27 inch.

A fairly heavy but irregular crop of vetch was plowed in on fields A-4a and A-4b, preparatory to the application of the fertilizers in accordance with the plans of the experiment and the planting of corn.

A variety test of corn was planted on fields C-1a and C-1b. The soil in these two fields shows considerable improvement in physical condition and fertility after the addition of two crops of vetch, one of rye, and three years of cultivation.

The recent impetus in the dairying industry that is taking place in this and adjacent sections has caused a demand for corn for ensilage and grain. No work has been done under irrigation conditions in this part of Oregon to determine the best varieties for these purposes. A series of cooperative experiments has therefore been taken up with farmers under an arrangement whereby the station furnishes the seed and the farmers grow it. Seven leading varieties were secured and distributed to six farmers for the preliminary test. It is planned to begin the selection of seed corn from these plats.

During the week ending May 24 the maximum temperature was 87, minimum 38; greatest daily range 37.

Fields A-4a and A-4b have been worked, the fertilizers applied and worked in, and the 1913 crop (corn) planted.

On account of the continued cool weather some replanting was necessary in the watermelon variety test.

Some work has been done about the grounds, mowing and removing the red clover, which has made a very rapid growth.

7 June, 1913.

FIELD NOTES.

San Antonio.

The maximum temperature during the week ending May 31 was 96, minimum 55; greatest daily range, 40.

Cotton thinning on the rotation fields was completed; also on the variety test of cotton on D3 and C4; and on B4 and AB8. After thinning, all cotton was cultivated.

The remaining oats on C5 and A3 were cut.

Plats B5-7, B6-8 were plowed, and plat A6-12 was subsoiled on the 29th and 31st.

Corn is beginning to tassel, dwarf milo is heading, and crops in general look very good, although the drought is threatening the corn crop. The total precipitation since January 1 has been 9.25 inches, which is a little more than two inches below the normal. Timely rains during June will insure good crops of corn, milo, and forage from Sudan grass and sorghum.

Yuma.

The maximum temperature during the week of May 24 was 101, minimum 51; greatest daily range 46.

A late planting of Egyptian cotton was made on land C-26 on the 21st. The earlier plantings of cotton are growing nicely. Some noticeable damage has been done to the foliage by a small beetle (*Diabrotica* sp.) Cotton on borders A-1, 2, 5, C-24 and 25, D-44 and 45 was hoed. Plat D-19 was cultivated.

The second planting of grain sorghums, plats D-22 and 23, has been thinned and also cultivated.

Orchard B-25 to 30 and nursery and garden plats A13-1 to 8 were cultivated.

Sweet potatoes were planted to A-10-3, "White Vineless" variety being used.

7 June, 1913.

FIELD NOTES.

Yuma (continued).

The seed crop of Canada Field Peas, S. P. I. No. 30134, from A12-5 was harvested. The second crop of alfalfa from border C-39 was mowed.

Fifty Eucalyptis rudis trees were set as re-plants along the road 1V. Seventy-seven S. P. I. No. 30473 Tafielt and seventy-seven S. P. I. No. 29391 Menakher date palms were moved from nurseries A14-3 to permanent orchard positions on land A-17.

Willow posts were cut for the construction of a new stock corral.

Mr. Farrell arrived at the station Friday morning.

Huntley.

During the week ending May 31 alfalfa in fields A and K was irrigated.

The weather has been unusually warm and most crops are making excellent growth. In some cases late planted beets are not coming up because of lack of moisture in the ground, which may make it necessary to irrigate.

Umatilla.

During the week ending May 31, the maximum temperature was 91, minimum 43; greatest daily range 43.

Tomatoes, eggplants, peppers and sweet potatoes were transferred from the hot bed to the field.

The rye cover crop was mowed during the week.

The garden, corn and demonstration plats were irrigated.

The first strawberries are ripe.

Mr Allen left Wednesday for a three weeks trip to California for the purpose of studying irrigation conditions.

FIELD NOTES.

Scottsbluff.

During the week of May 31 0.26 inch of rainfall was recorded. This with the warm weather has caused everything to grow rapidly.

In the irrigated rotations sugar beets on field K were cultivated for the first time, corn was harrowed, potatoes cultivated, and all alfalfa plats on field K irrigated.

In the dry land rotations sorghum was seeded May 30, and rye was plowed under May 31.

A portion of the sugar beets had to be reseeded but most of the plantings show a good stand for this year.

Irrigation on the alfalfa was started May 28 and will continue until the end of the season.

One of the farm work horses died on the 28th.

PERSONAL.

Mr. Bailey on June 3 began work in the new Office of Markets under Mr. C. J. Brand. It is expected that this transfer will be made permanent and that he will soon be transferred to the rolls of the new office. He is succeeded in the Washington Office by Mr. Wood.

FIELD NOTES.

Belle Fourche.

The maximum temperature for the week ending May 31 was 95, minimum 46; precipitation .53.

Roads were graded during the week in fields A, B, C, D, E, F, & G.

Cleaned irrigation ditches in field A and made sublaterals to the plats.

The irrigation of winter wheat, winter rye, and alfalfa was commenced Thursday.

Planting of the garden is nearly complete.

The corn varieties planted in F(IV) have been duplicated in the garden, where they can be irrigated, if necessary.

Yuma.

The maximum temperature for the week ending May 31 was 98, minimum 49; greatest daily range 43.

The second crop of alfalfa from borders B-9 to 12, C-6, 7, 23 and 39 and D-27 were mowed.

Pomegranate plantings on C-13 were disked and cultivated. The pomegranates have borne a very heavy bloom this season and are setting much fruit for young plants.

After collecting and ginning all the waste samples of Egyptian cotton on hand one 450-pound bale has been pressed, the lint of which is worthy of sale to mattress manufacturers or the like.

Canada field peas from A-12-3 were harvested for seed. The hay yield was an average of 1.96 tons per acre.

One hundred and fifty-three S. P. I. No. 29391, Menakher seedling date palms were transplanted from date nursery A14-3 to orchard positions on A-16. Also, 150 of the same variety

14 June, 1913.

FIELD NOTES.

Yuma (continued).

were set out as replants along the roads on north and east side of farm.

Before the first frost last fall about one-quarter acre of Egyptian cotton was topped a few inches above the surface of the ground and to each row was thrown one furrow by a breaking plow. After any possibility of late frost this spring these rows were unearthed and the ground irrigated. The percentage of live roots that had passed the winter appeared to be high. As growth proceeded, the following figures and percentages have been noted. From a total planting of 1286 plants on May 12th there were 982 growing plants. A census taken May 31st shows 1178 growing plants, or a volunteer stand of 91.6%. At this date about 3% of the plants are blooming and all have a large number of squares that will flower within a few days. The plants average seventeen inches in height. The earliest planted Egyptian cotton from seed now averages seven inches in height and will not produce first flowers for at least thirty days.

The Reclamation Service dredge which is being used in constructing the open drainage ditch has completed the ditch along the south side of the experiment farm. The drainage system should be sufficiently completed to furnish some relief to settlers by the time of high water period.

Mr. Farrell left for the Imperial Valley on Wednesday.

Mr. Argyle McLachlan visited the station Sunday, Monday and Tuesday.

FIELD NOTES.

Truckee-Carson

The maximum temperature for the week ending May 31 was 91, minimum 39; precipitation 2.03.

The Onions in Field S were thinned and weeded
Australian Salt Bush Plants were set out in D11.

Tomato, Egg Plant and Pepper Varieties were transferred from the Green House to the Garden in N12.

The heaviest rain occurred on the 38th that has been recorded for several years.

Belle Fourche.

The maximum temperature for the week ending June 7 was 84, minimum 36; precipitation, 0.92 in.

The irrigation of alfalfa and winter wheat in the irrigated rotations was completed.

The winter wheat and rye in field A was also irrigated.

The varieties of millet have been planted in E-I and varieties of sorghum in G-III.

Millet was planted in field K above the ditch.

The remainder of field E was double disked preparatory to seeding millet.

The rye plats in field B (dry land rotations) were plowed, disked, and harrowed. This year there was an unusually good stand of rye.

The clover, alfalfa, and sorghums in field B (dry land rotations) were seeded, and seeding of alfalfa in field A was completed.

On the east side of field I fourteen 1/20 acre plats were seeded to alfalfa, varying in rate from 2½ to 25 pounds.

The alfalfa in fields C and G has been cultivated.

The forestry plantings were gone over with a spring tooth harrow.

14 June, 1913.

FIELD NOTES.

San Antonio.

The maximum temperature for the week ending June 7 was 95.5, minimum 64; greatest daily range 32.5, all of the above extremes being recorded on the same day.

The cotton plats in the rotation fields were gone over with hoes. Sudan grass on B4-14 in the new rotation experiments was cut for hay. This grass has made an excellent growth and the yield of hay promises to be high.

Oats on plats A4-11 and 15 were cut, it being necessary to use the mower, as they were so short the binder failed to do satisfactory work. These oats were seeded on February 21, which was very late. Oats for hay on B4-17, seeded at the same time as the above two plats, were drawn in and yielded at the rate of 2712 pounds of field cured hay per acre.

One and one-half days were spent in threshing Canada field peas and oats. A total of 263 pounds was secured from the various seed plats. Oats from the rotation plats yielded as shown in the following table:

Plat Number	:Yield per plat.:		Yield per acre.		:Ratio of	
	: Straw.:	:Grain.:	:Straw.:	Grain.	:Grain to	
	:Pounds.:	:Pounds.:	:Pounds:	Pounds:	Bushels:	Straw.
A4-5	782.5	303.5	3130	1214	38.0	38.8
A5-7	572.5	59.5	2290	238	7.4	10.4
A5-11	528.0	60.0	2112	240	7.5	11.4
A5-15	444.0	50.0	1776	200	6.3	11.3
A6-16	422.0	91.0	1688	364	11.4	21.6
A6-18	452.5	102.5	1810	410	12.8	22.7
B5-8	438.0	82.0	1752	328	10.3	18.7
Average			2079.7		13.4	

14 June, 1913.

FIELD NOTES.

San Antonio (continued).

The most noticeable thing about these yields is the high yield from plat A4-5, which was summer fallowed last season. It is also observed that the proportion of grain to straw is much larger on A4-2 than on the remainder of the plats. This is explained by the failure of many of the plats to mature heads. The oats this year grew very thick during the early spring when rains were frequent and conditions favorable for rank vegetable growth, causing much lodging early. The dry weather following this resulted in the failure of the plants to head and mature fully, hence a low grain yield except on A4-5, where the vegetative growth was less rank early in the season.

Cut of oat fields grown for feed small areas were threshed for the purpose of obtaining the yield in grain per acre. Oats on field C5, on land summer fallowed, sown on January 2, yielded as follows:

Appler's Rustproof 29 bu. per acre.

Texas Red Rustproof 26.9 " " "

Texas Red Rustproof oats seeded late in January, on land cropped to sorghum last season, yielded at the rate of 21.4 bushels per acre.

The grain sorghum plantings on the rotation plats and in the rate-of-seeding tests are flowering. The sorghum midge has not yet appeared, which assures a good crop so far as the midge is concerned. Marked differences are showing up in the rate-of-seeding test. Where the suckers have been largely eliminated by thicker seedings the crop is maturing very uniformly.

Mr. Meade reports as follows regarding the condition of the cotton:

Notes taken this and previous seasons indicate that cotton on A4-1, summer fallowed, and on fallow land on C4 develops less normally than on plats

14 June, 1913.

FIELD NOTES.

San Antonio (continued).

cropped the preceding season. Cotton on plats manured in the spring and plowed in summer on plats in A5 seem to give most normally developed plants. All plantings of cotton are recovering from tomosis infection and plants are developing normal leaves and branches. Commercial plantings of cotton seeded in March, south of the farm, have been flowering for more than a week.

Acala cotton on Ab8 has the largest squares and will flower this coming week. Egyptian cotton, from the general condition of the plants, will be earlier than usual this season. Early thinned plants have squares developed as large as those of Durango at this time.

Huntley.

During the week of June 7, the winter wheat in Fields K and M was irrigated.

Beets in irrigated rotation field and in field MI were thinned.

There has been but little rainfall during the past month, with the result that on many parts of the project late sown crops have failed to come up and many of the farmers are resorting to irrigation to bring up beets and grain.

Mr. A. G. Schattenberg arrived at the Farm June 1.

TECHNICAL BOOKS AT FIELD STATIONS.

A number of the farm superintendents are planning to make additions to their libraries during the fiscal year 1914, and there is some uncertainty as to the most satisfactory books to purchase. Some of the better equipped libraries contain several books on one subject, but it is frequently found that the best book of those on hand is sufficient or that some of those on the same subject are of comparatively little value. Comment on books kept in the different libraries, similar to the comment relative to farm equipment suggested on page 207 of Vol. II of the Weekly Bulletin of Dec. 14, 1912, would be very helpful to those who expect to purchase books during the coming year.

It is requested that each farm superintendent send to the Washington office at his earliest convenience a statement relative to the books in his library, in some such form as is suggested below.

Subject.:	Title.	:Publishers:	Remarks.
Soils :	:	:	:
.....
Crops :	:	:	:
.....
Irrigation:	:	:	:
.....
Botany :	:	:	:
.....
etc. etc. :	:	:	:

In the "Remarks" column a brief statement of the superintendent's opinion of the books may be given. It is important that both the satisfactory and the unsatisfactory books be listed and that specific reasons be given briefly in each case for the estimate placed on the value of the book.

21 June, 1913.

Technical Books at Field Stations (continued).

If this is done it will probably prevent the purchase of some unsatisfactory books as well as indicate which books are most likely to be of value at the different farms.

It would be well if at the same time the above suggested list is submitted each superintendent would send in a list of books which he wishes purchased or which he believes to be valuable for use on our field stations. This list could be made out in the same form as is used for listing the books on hand.

As soon as this material is received from all the superintendents a digest of it will be published in the WEEKLY BULLETIN. In order that the material may be made available at an early date, it is requested that each superintendent submit his list as soon as possible.

F. D. F.

FIELD NOTES.

Umatilla.

The maximum temperature during the week of June 7 was 97, minimum 44.

The alfalfa hay in fields B and C was put up during the week.

Considerable hay on the project was damaged by a hard rain late Saturday.

The weather has remained comparatively cool, and crops generally are making a rapid growth.

FIELD NOTES.

Scottsbluff.

The weather during the week of June 7 was very disagreeable. There have been a few light showers, amounting to but a trace of precipitation. Every afternoon there was a terrific sand storm which did considerable damage to the grain and sugar beets.

Beet thinning is about completed. A much better stand has been secured than at first expected. Several thousand acres of beets are being replanted in the valley, and unless weather conditions change for the better very soon these replanted beets will not make a crop.

Irrigating of alfalfa was finished Thursday. The alfalfa is now making a good growth.

The men were kept busy all week hoeing weeds and making cement checks. A change has been made in the form of check from that used last year, and it is found possible to make a much cheaper and at the same time a more serviceable form of check.

Truckee-Carson.

During the week of June 14 the maximum temperature was 82.14, minimum 50.57.

During the week the men were cleaning out ditches; making irrigation boxes; making hay derick; and working on the buildings and grounds.

The work of thinning onions on Field "S" was completed.

21 June, 1913.

FIELD NOTES.

Scottsbluff.

On June 13 0.8 inch of rain fell, preceded by a hail storm which did no damage. June 14 was the first day for nearly three weeks that there was no sand storm in the afternoon.

All of the small grain in the irrigated rotations was irrigated. On account of the poor stand of flax, the plats were disked and reseeded.

Two men were kept busy irrigating the small grain and the newly seeded alfalfa, and a third man began irrigating a portion of the potatoes.

The sugar beets have all been thinned except $1\frac{1}{2}$ acres that were reseeded.

Corn was cultivated and hoed over once.

Belle Fourche.

During the week of June 14 the maximum temperature was 87, minimum 44; precipitation 0.57.

The alfalfa in fields O and P has been irrigated.

Millet for increase was planted in rows in field E.

Irrigated forestry has been hoed and plowing of weeds has begun.

The corn in irrigated and dryland rotations was cultivated; also variety corn in F-IV was cultivated.

Potatoes in the irrigated rotations have been hoed, and the cutting of alfalfa in field C begun.

FIELD NOTES.

San Antonio.

During the week of June 14, the maximum temperature was 92, minimum 63; and greatest daily 26. The total precipitation was .77 inch.

After the rain, cotton, orchards, and fallow land were cultivated.

Messers Cook, Doyle and McKeever arrived at the Station on the 12th.

Umatilla.

During the week of June 14, work was begun on a grape trellis for the variety test of grapes.

A Mormon corrugator was used to furrow the alfalfa for irrigation of the second crop and was found very satisfactory, although being of heavy draft.

The garden and row crops were cultivated after the rain of Sunday and Monday.

The inside roads of the farm are being coated with cement gravel.

Huntley.

During the week of June 14, alfalfa in Fields K, A-III-AIV, and BV, and grass mixtures in Field A-II were mowed. Winter wheat in Worden Tract was irrigated.

The drouth still continues and it has been necessary to irrigate some of the corn and potatoes in Field K.

Sugar beets in Field C were replanted and the ground irrigated.

FIELD NOTES.

Truckee-Carson.

During the week of June 14, the maximum temperature was 75.3, minimum 48.

Mr. F. D. Farrell arrived on the 7th. On Monday Messrs. Farrell, Headley and Heisey visited the Indian School, where variety grain tests are being conducted in cooperation with the Experiment Farm. They also inspected the dairy herds of Mr. Hancock and Mr. Mobley. Tuesday Messrs. Farrell and Headley visited the Fernley section.

The recent heavy rains have brought on a wealth of weeds and the men have been kept busy cultivating.

Yuma.

The corral for mules and horses was completed during the week of June 14.

Alfalfa on borders D-6, 7, 12 and 16 was renovated.

Broom corn on A-3, Milo on E-7 and 8 and grain sorghums on D-24 and 25 were thinned.

Egyptian cotton on fields A-1, 2 and C-19 was thinned for the first time. The warmer weather has made a noticeable change in the condition of cotton. Rapid growth is now putting out and overcoming the injurious effects of the continued cold nights.

Border A15-3 has been seeded to the native species of Sesbane to be handled as a summer green manure crop.

Thirteen hundred two-year old seedling date palms have been dug from nursery A14-3 and distributed among the settlers - twenty-five to each unit. These are largely of the variety Menakher, there also being some Hard and some Ascherasi.

FIELD NOTES.

Yuma (continued).

The leveling and bordering of lands B-18 to 24 was completed this week. These lands will be seeded to cow peas about July 1st.

Mr. Blair accompanied Mr. McLachlan on a three days trip to the Palo Verde Valley project.

Mr. D. N. Shoemaker visited the station on June 11th for the principal purpose of noting conditions of cantaloupe experiments.

The second cutting of alfalfa has all been weighed and has given acre yields as follows:

Field.	Yield, Pounds.	Tons per acre.
	Chilian.	
B-9 & 10.....	1330	.67
B-11 & 12.....	1180	.59
B-31 & 32.....	3052	1.52
C-6.....	350	.35
C-7.....	490	.49
C-28.....	410	.41
D-6 & 7.....	1715	.86
D-8 & 9.....	2090	1.05
D-10.....	965	.97
D-11.....	605	.61
D-12.....	605	.61
D-13.....	1175	1.18
D-14.....	1330	1.33
D-15.....	1085	1.09
D-16.....	1020	1.02
D-27.....	720	.72
Average.....	...	.84
	Peruvian	
C-40.....	2070	1.04

FIELD NOTES.

Scottsbluff.

During the week of June 21 there was a rainfall of 0.35 inch.

The weather has been unsettled. Haymaking in the Valley has been started and some of the hay has received several wettings.

All of the rowed crops in the irrigated rotations were cultivated. On Monday one man began to hoe the sugar beets and continued the work during the entire week.

In the dry land rotations corn was cultivated and weeds were hoed the remainder of the week.

All of the rowed crops were cultivated, and the first irrigation of all crops was finished on Wednesday.

The irrigated and dry land corn was thinned and hoed over, and the sugar beets were given a second hoeing and thinning. The reseeded sugar beets will be large enough to thin out by next week.

Most of the barley is headed out and wheat is beginning to head.

The alfalfa is very backward, but as soon as the weather becomes a little more settled the mower will be started. Many farmers are cutting alfalfa early this year. All hay buyers want fine hay and in order to secure this it is being cut long before it is ready. Mr. Knorr believes this to be a great waste, both to the farmer and to the feeder, but regards it as one of the freak market demands that the farmers have to accede to.

Belle Fourche.

The maximum temperature during the week ending June 21 was 85, minimum 50; precipitation, 0.41.

The first of the week a hail storm did considerable damage to crops, especially to early seeded grain on the dry land.

FIELD NOTES.

Belle Fourche (continued).

The sugar beets in the irrigated rotations had to be replanted, as the first planting was an entire failure.

All the corn and potatoes were cultivated and the irrigated forestry was plowed and gone over with a spring tooth harrow.

Weeds are causing considerable trouble.

The alfalfa on the dry land and irrigated rotations has been harvested and hauled in. The yields were as follows:

Field A-- Irrigated Rotations.

Series.	Plat.	Pounds. per plat.	Pounds. per acre.	Tons. per acre.
I	3	634	2536	1.27
I	7	646	2584	1.29
I	12	630	2520	1.26
I	13	926	2504	1.25
I	51Cont.	336	1344	0.67
II	21	1064	4256	2.13
II	10	612	2448	1.22
II	11	594	2376	1.19
II	16	640	2560	1.28
II	17	678	2712	1.36
II	29	568	2392	1.20
II	30	616	2464	1.13
III	16	726	2904	1.45
III	21	750	3000	1.50
III	23	1072	4288	2.14
III	24	1004	4016	2.01
I	S. of road	618	2472	1.24
I	N. of road	616	2464	1.23
II	S. of road	708	2832	1.42
II	N. of road	838	3352	1.68
III	S. of road	606	2424	1.21
III	N. of road	574	2296	1.15

FIELD NOTES.

Belle Fourche (continued).

Alfalfa on Dry Land, Field B

Series.	Flat.	Pounds. per plat.	Pounds. per acre.	Tons. per acre.
I	Along road	130	2600	1.30
II	" "	120	2400	1.20
III	" "	120	2400	1.20
IV	" "	80	1600	0.80
V	" "	100	2000	1.00
VI	" "	120	2400	1.20
VII	" "	140	2800	1.40
VIII	" "	120	2400	1.20
IX	" "	120	2400	1.20
II-clover	6	148	1480	0.74
IV	4	184	1840	0.92
IV	5	186	1860	0.93

Field C

II	11	210	2100	1.05
II	12	190	1900	0.95
II	13	220	2200	1.10
II	14	250	2500	1.25
II	15	210	2100	1.05
II	16	210	2100	1.05
II	17	130	650	0.32
III	10	170	1700	0.85
III	11	210	2100	1.05
III	12	190	1900	0.95
III	13	270	2700	1.35
III	14	210	2100	1.05
III	15	220	2200	1.10
III	16	200	2000	1.00
III	17	120	600	0.30

1913 INVENTORY STATEMENTS.

Blank forms of Schedules "A" and "B", on which to submit the inventory statements for 1913, have been mailed to each of the farms. These statements should be prepared in accordance with the new classification sent out in February and should be forwarded to this office as soon after July 1 as possible. Do not wait for the supplemental monthly statement for June, but make out the inventory as soon as the regular June statement is received. When changes in classification are made, both the old and the new classes should be shown, with proper explanations, the old class being reported under "On Hand Last Report" and the new class under "Received Since Last Report". In all cases the first column of the inventory for 1913 should correspond with the last column of the 1912 inventory.

UNUSED TRANSPORTATION REQUESTS.

Field men are reminded that they should send in as promptly as possible all unused transportation requests issued under 1913 authorizations.

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